

- ★ Compliance Well
- ⊕ Extraction Well
- Groundwater flowpath indicated with reverse particle tracking
- Topographic Contours (20 foot intervals)

UMETCO MINERALS CORPORATION

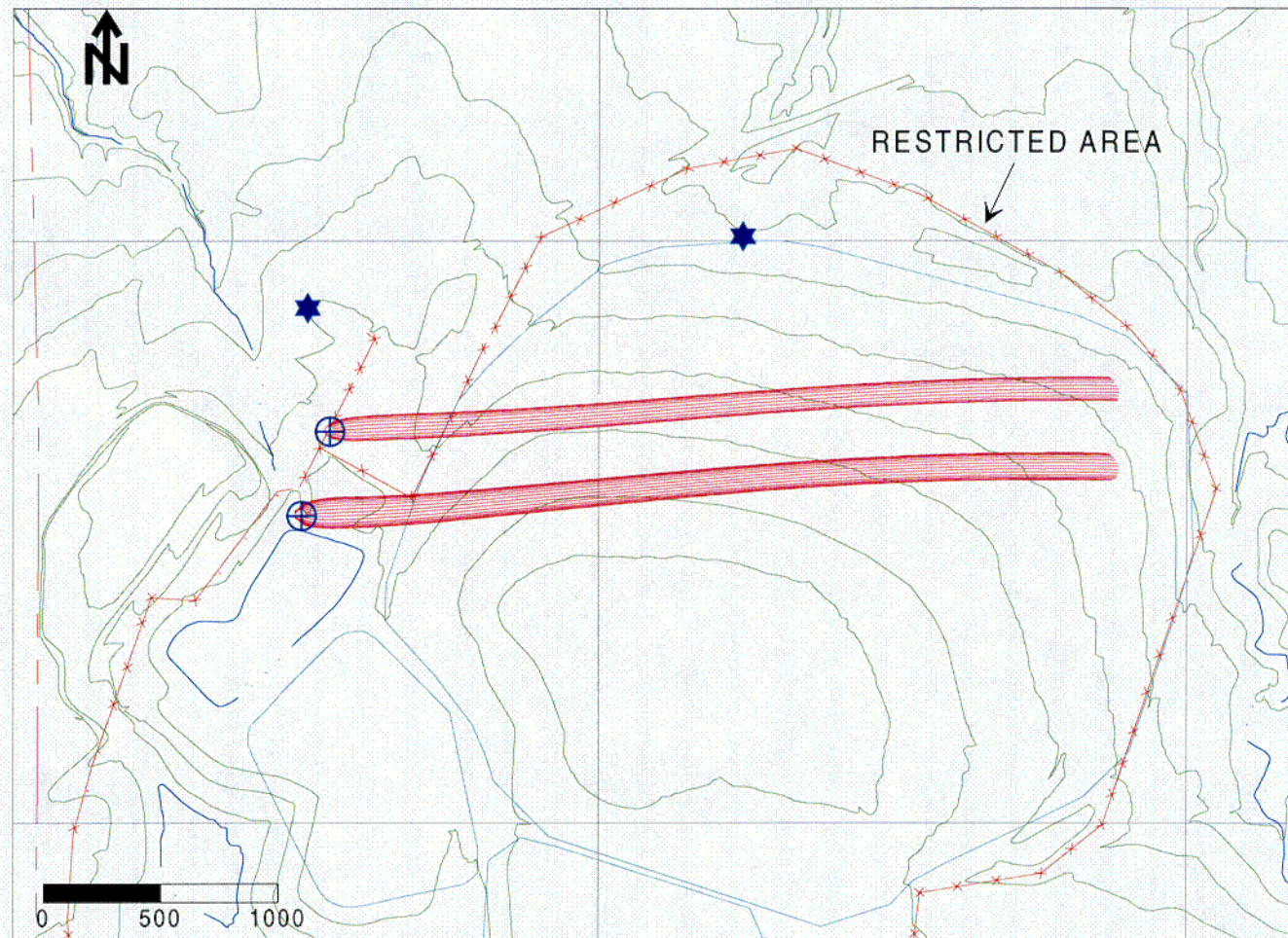
CORRECTIVE ACTION PROGRAM SIMULATION
A-9 REPOSITORY

GAS HILLS SITE

NOVEMBER 2000

FIGURE C-32

C-1



- ★ Compliance Well
⊕ Extraction Well
—x—x— Groundwater flowpath indicated with reverse particle tracking
 (100 year travel time is shown)
— Topographic Contours (20 foot intervals)

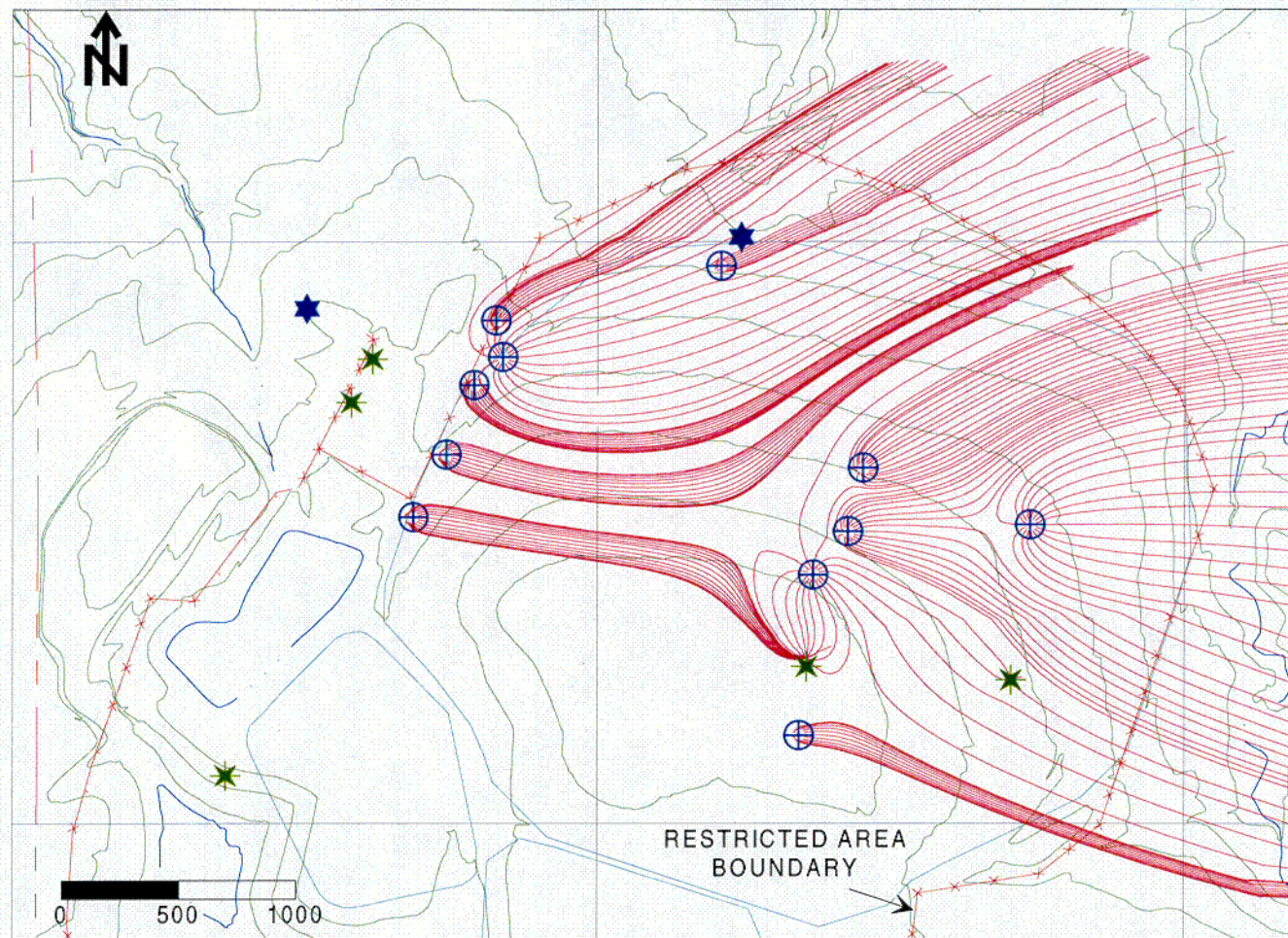
UMETCO MINERALS CORPORATION

CORRECTIVE ACTION PROGRAM SIMULATION
ABOVE GRADE TAILINGS IMPOUNDMENT

GAS HILLS SITE

NOVEMBER 2000

FIGURE C-33



- ★ Compliance Well
- ★ Injection Well
- ⊕ Extraction Well
- Groundwater flowpath indicated with reverse particle tracking (100 year travel time is shown)
- Topographic Contours (20 foot intervals)

Note: Simulation of 1994 average extraction and injection rates
 Total combined extraction rate is 60 gpm
 Total combined injection rate is 23 gpm

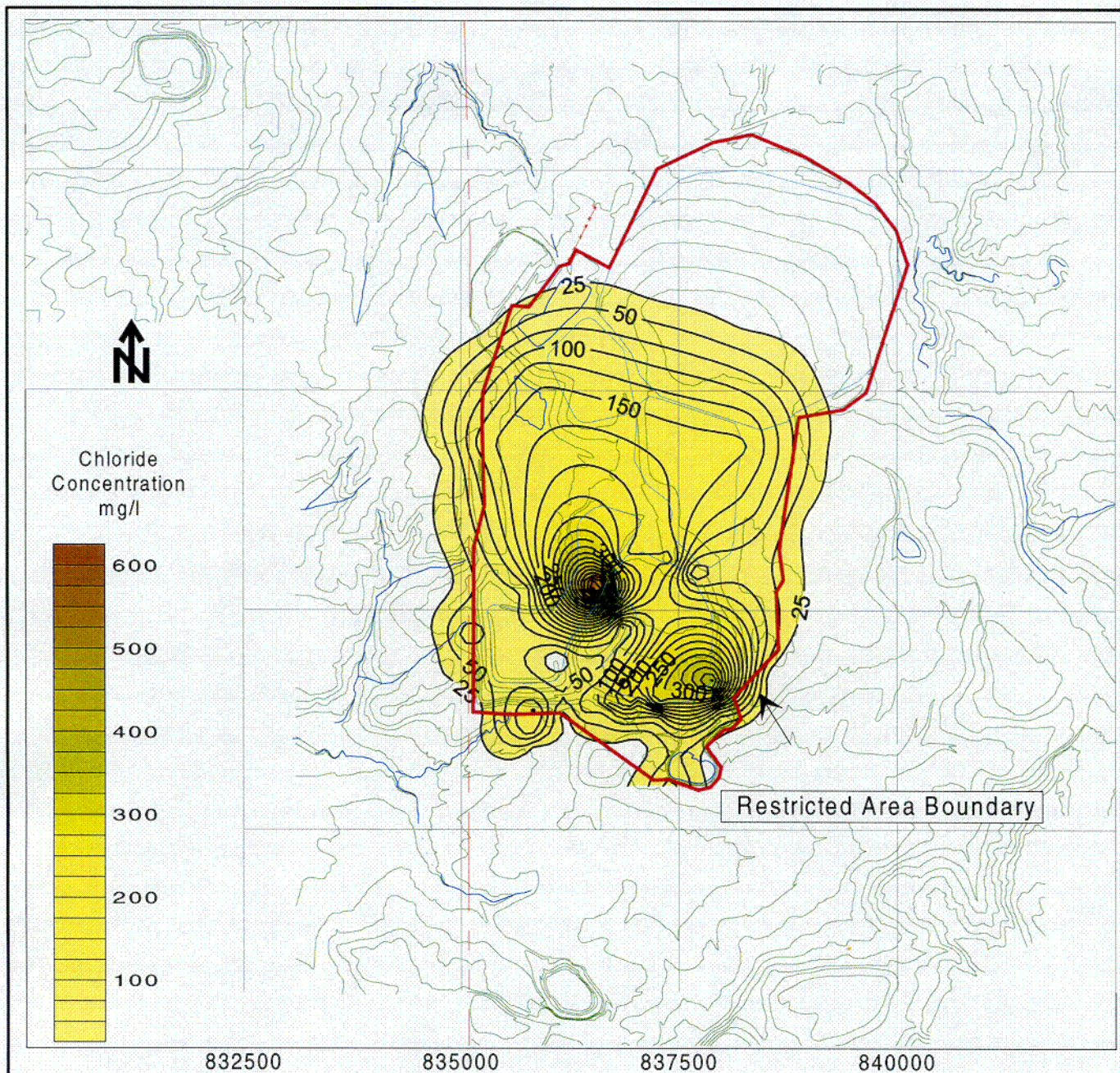
UMETCO MINERALS CORPORATION

CORRECTIVE ACTION PROGRAM SIMULATION
 HISTORIC EXTRACTION/INJECTION RATES
 ABOVE GRADE TAILINGS IMPOUNDMENT

GAS HILLS SITE

NOVEMBER 2000

FIGURE C-34



Chloride isoconcentration lines (25 milligram per liter contour intervals)
Values based on 1st quarter 2000 water quality data.

Topographic Contours (20 foot intervals)

UMETCO MINERALS CORPORATION

INITIAL CHLORIDE CONCENTRATION
LAYER 1

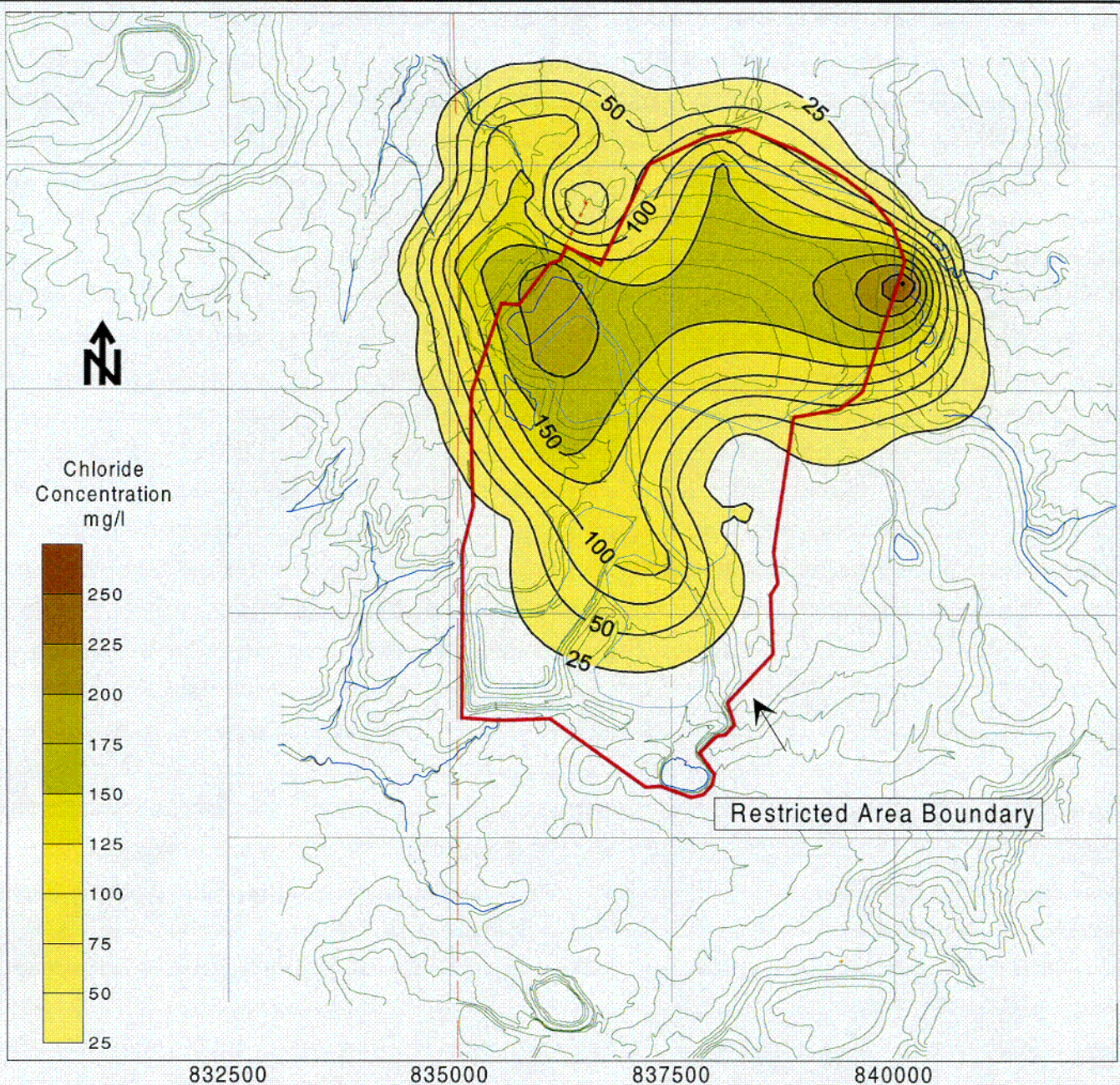
GAS HILLS SITE

NOVEMBER 2000

FIGURE C-35

FIGC1.SRF

C-4



Chloride isoconcentration lines (25 milligram per liter contour intervals)
Values based on 1st quarter 2000 water quality data.



Topographic Contours (20 foot intervals)

UMETCO MINERALS CORPORATION

INITIAL CHLORIDE CONCENTRATION
LAYER 3

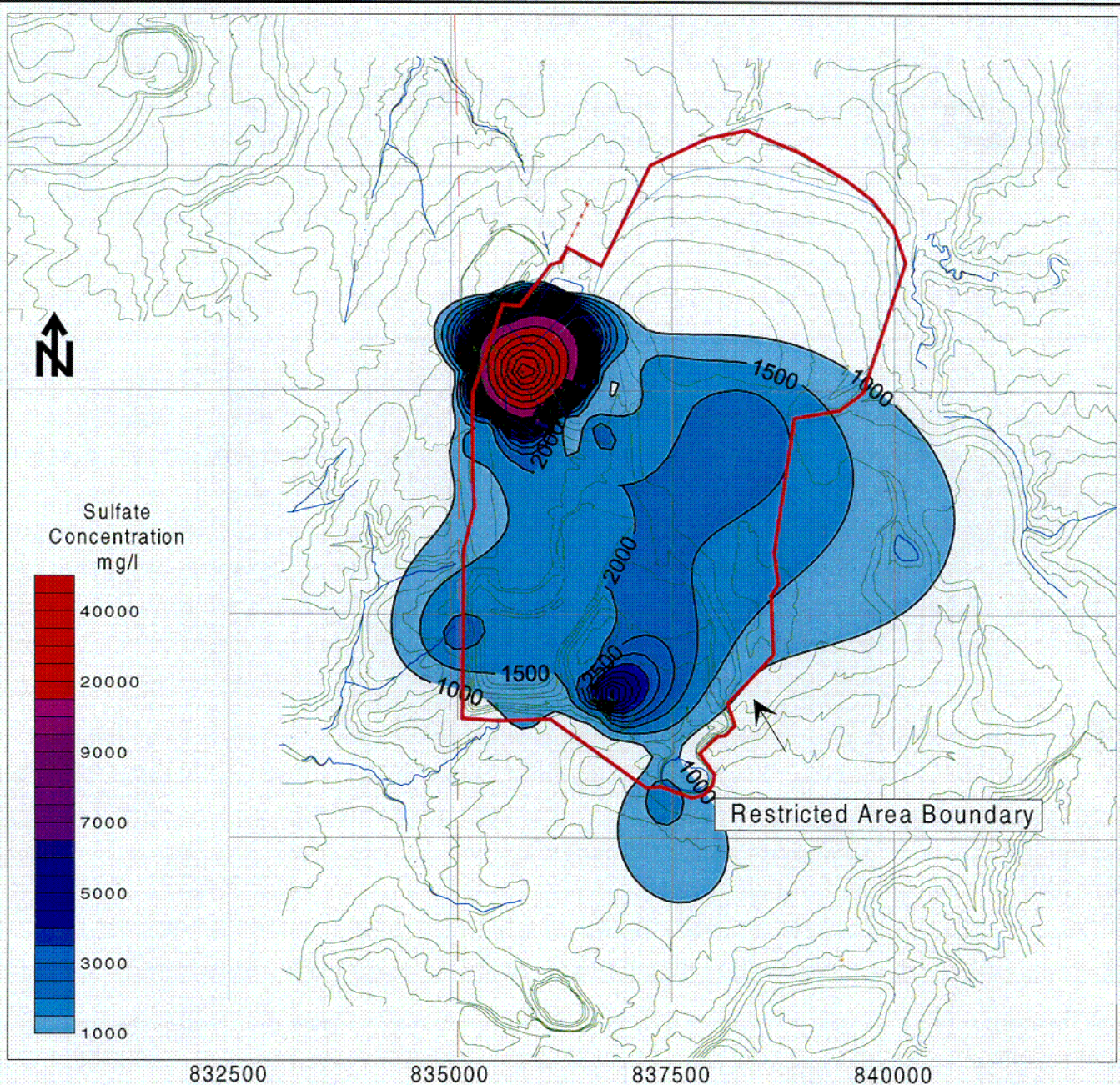
GAS HILLS SITE

NOVEMBER 2000

FIGURE C-36

FIGC1.SRF

C-5



Sulfate isoconcentration lines
 Contour interval = 500 mg/l from 1,000 to 10,000 mg/l and 5,000 mg/l from 10,000 to 45,000
 Values based on 1st quarter 2000 water quality data.



Topographic Contours (20 foot intervals)

UMETCO MINERALS CORPORATION

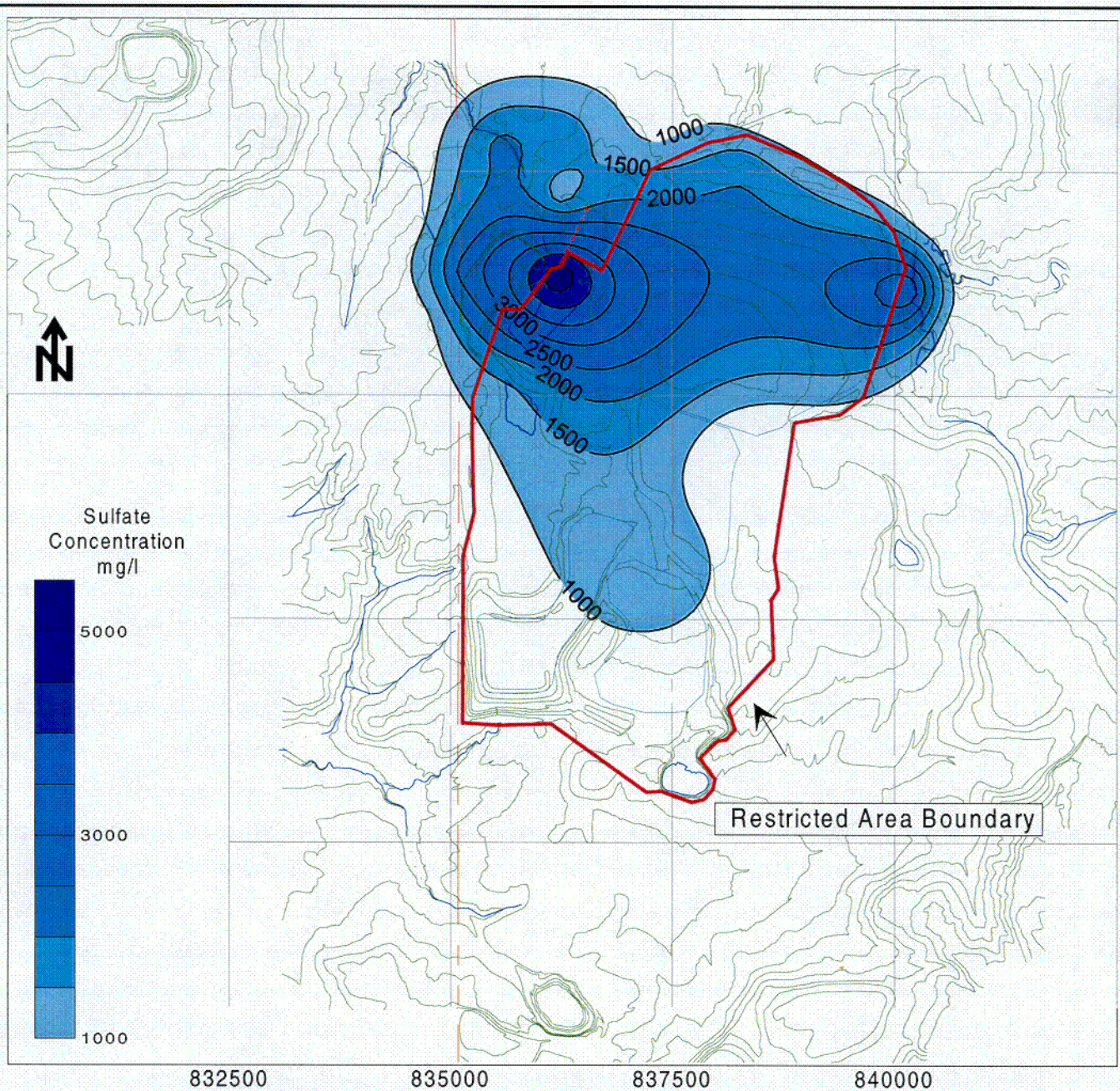
INITIAL SULFATE CONCENTRATION
 LAYER 1

GAS HILLS SITE

NOVEMBER 2000

FIGURE C-37

C-6



Sulfate isoconcentration lines
 Contour interval = 500 mg/l from 1,000 to 10,000 mg/l and 5,000 mg/l from 10,000 to 45,000
 Values based on 1st quarter 2000 water quality data.



Topographic Contours (20 foot intervals)

UMETCO MINERALS CORPORATION

INITIAL SULFATE CONCENTRATION
 LAYER 3

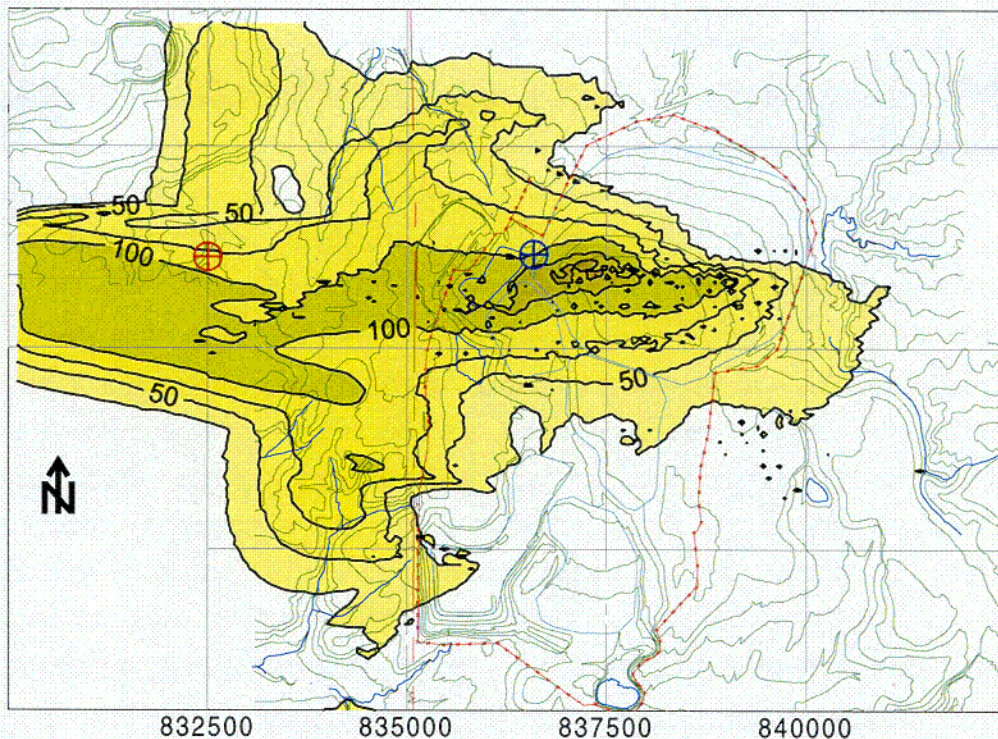
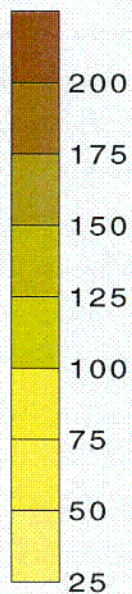
GAS HILLS SITE

NOVEMBER 2000

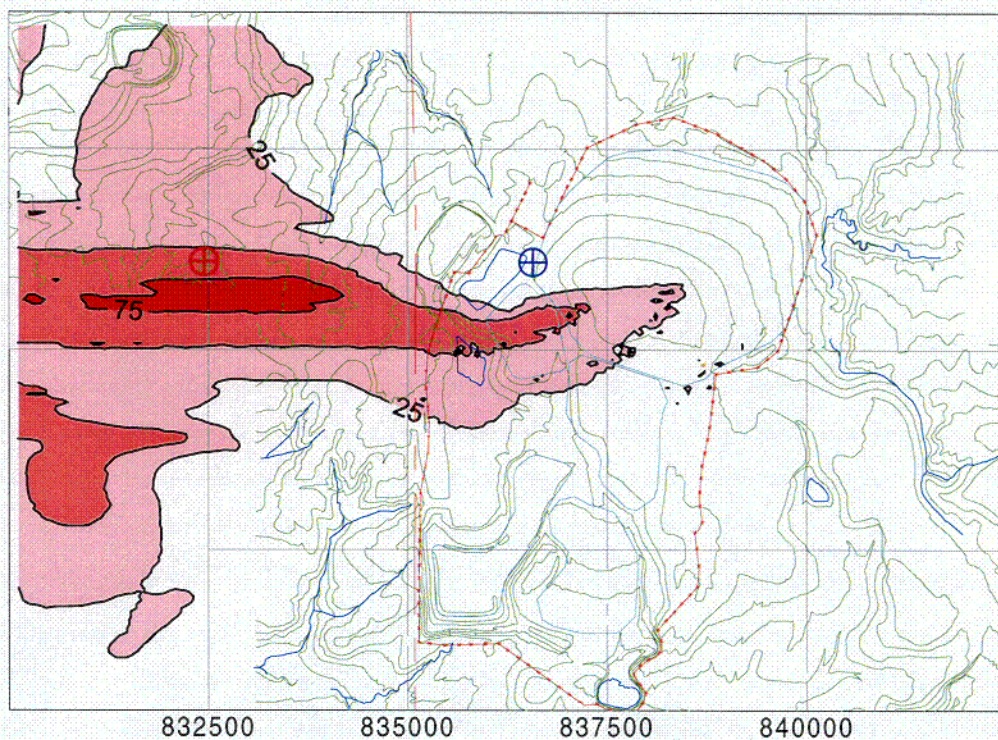
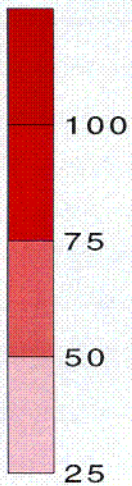
FIGURE C-38

C-7

Chloride Concentration
at 100 Years (mg/l)



Chloride Concentration
at 200 Years (mg/l)



- ⊕ Point of Compliance For Concentration vs Time
Plot in Figure C-43
- ⊕ Point of Exposure For Concentration vs Time
Plot in Figure C-43
- Topographic Contours (20 foot intervals)

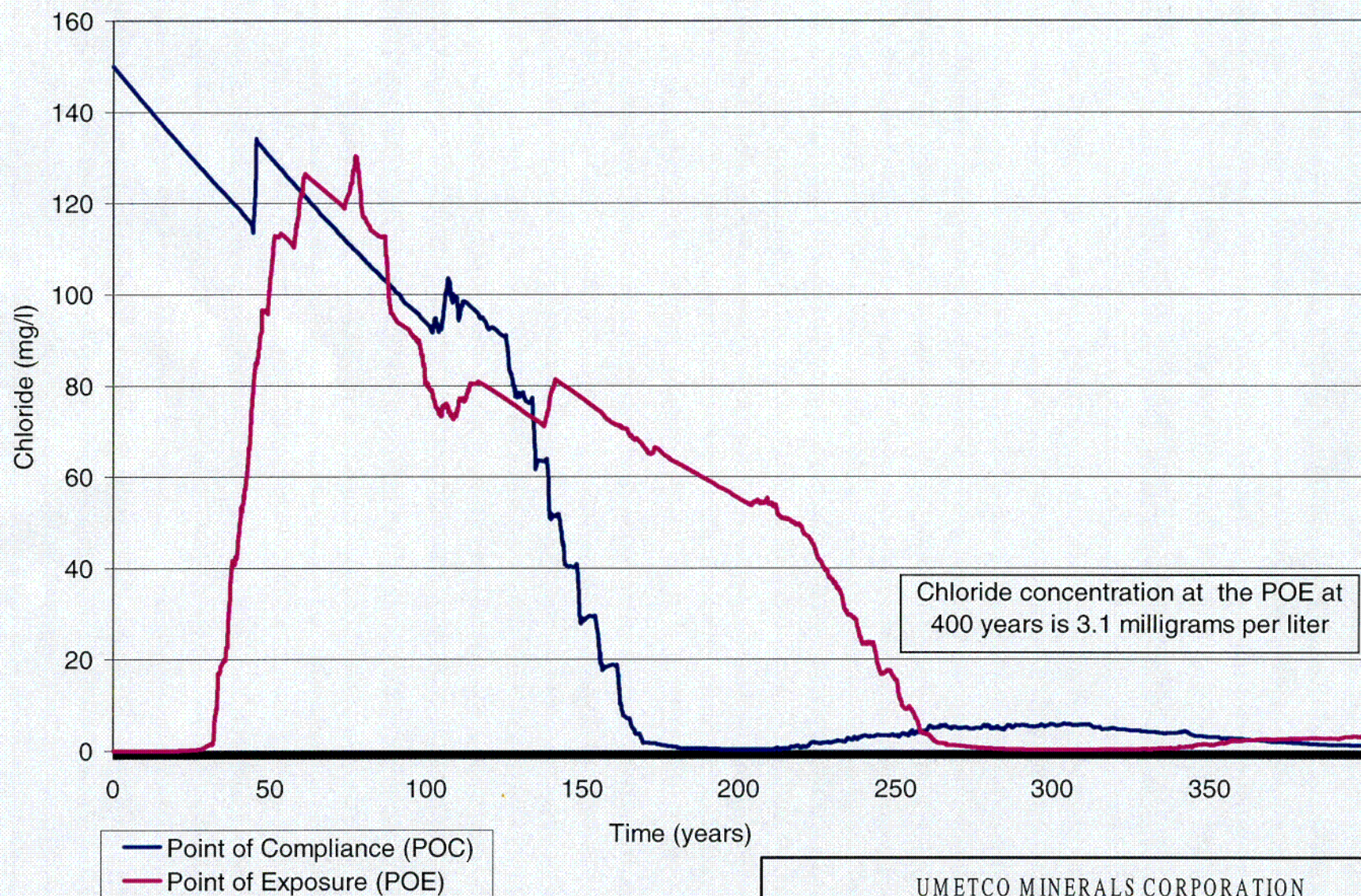
UMETCO MINERALS CORPORATION

MODELED CHLORIDE DISTRIBUTION
AT 100 AND 200 YEARS
LAYER 3
GAS HILLS SITE

NOVEMBER 2000

FIGURE C-39

L-8



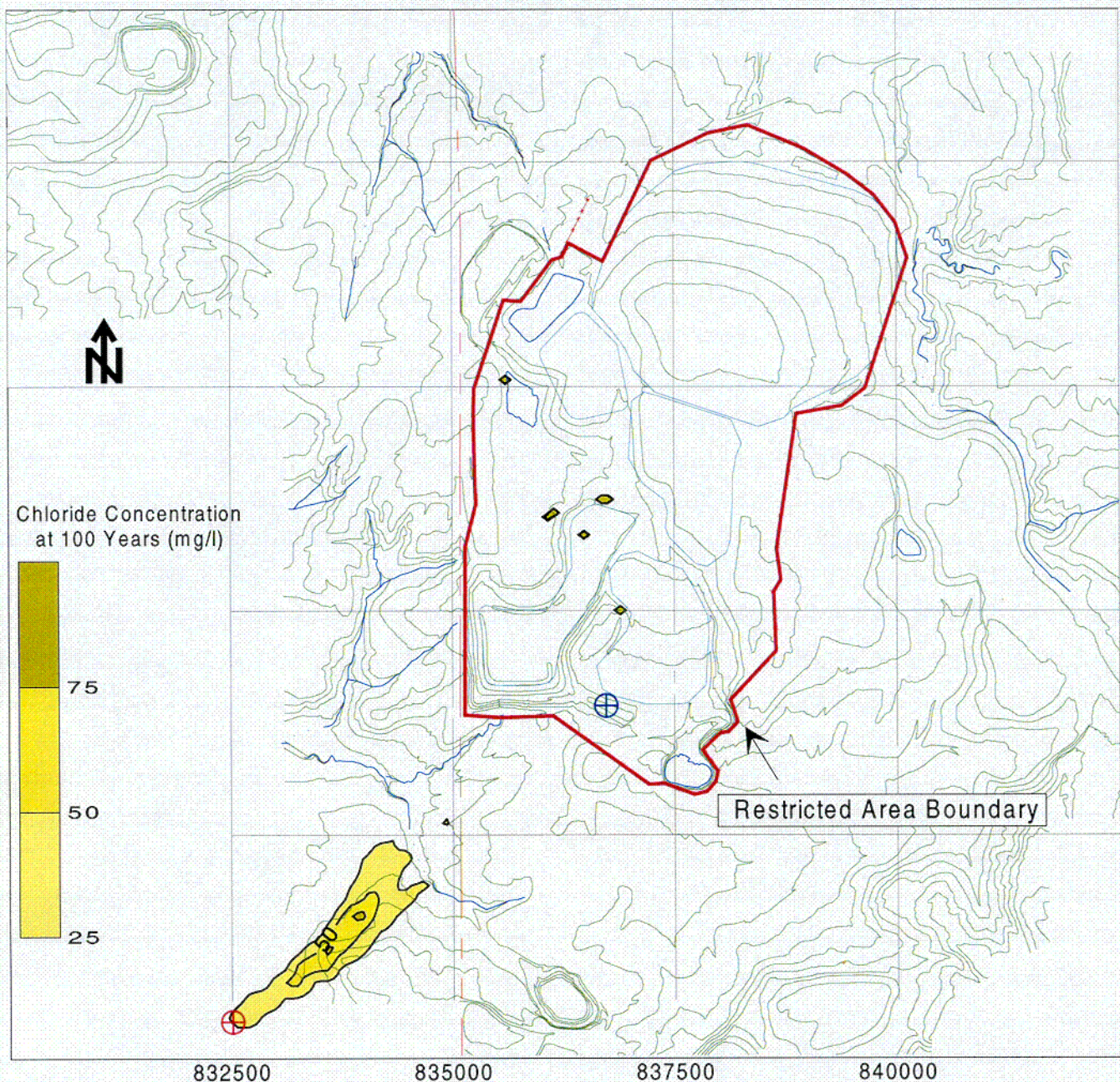
UMETCO MINERALS CORPORATION

CHLORIDE CONCENTRATION VERSUS TIME
AT THE WESTERN FLOW REGIME
POINT OF EXPOSURE AND POINT OF COMPLIANCE

NOVEMBER 2000

GAS HILLS SITE

FIGURE C-40



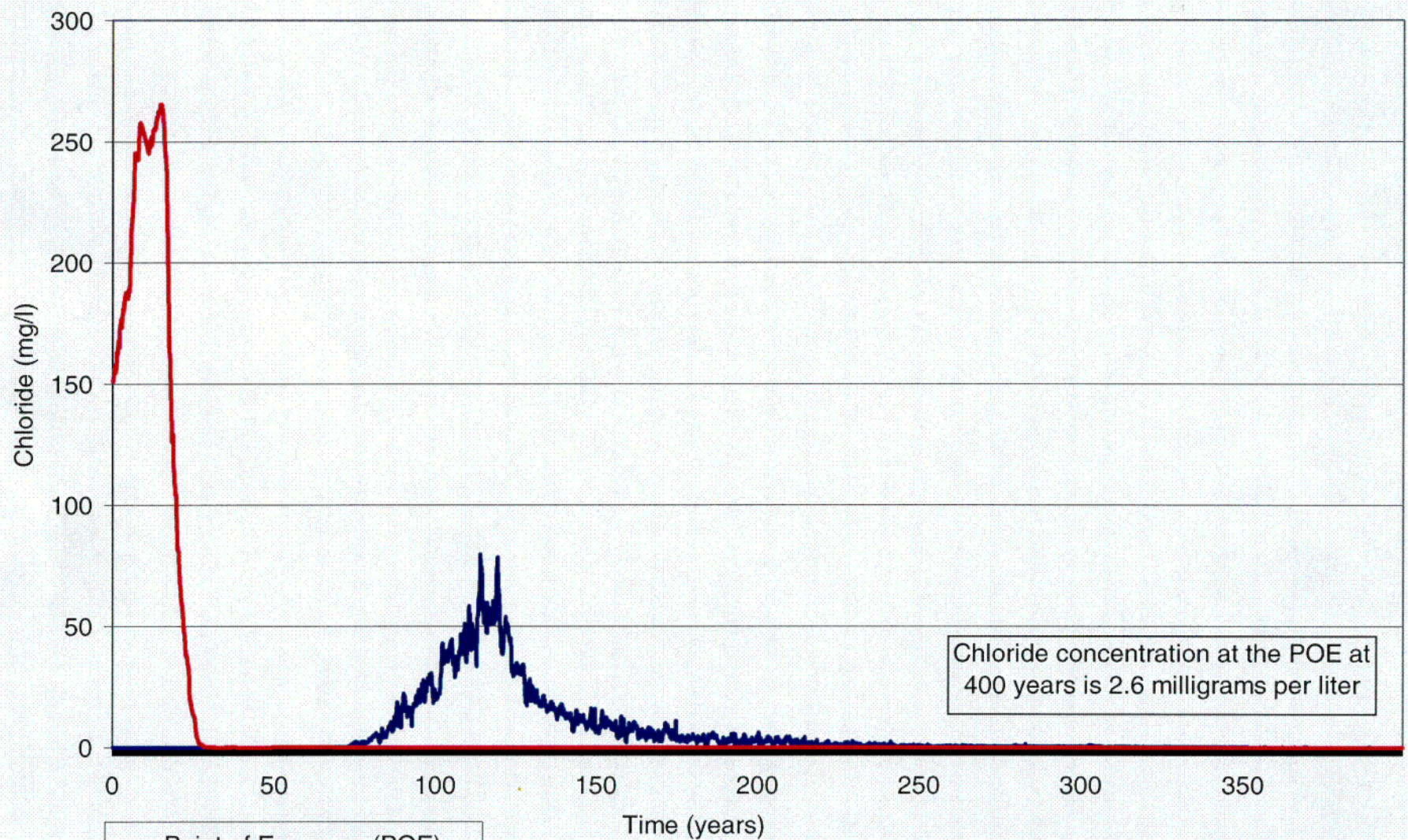
- ⊕ Point of Compliance For Concentration vs Time
Plot in Figure C-45
- ⊗ Point of Exposure For Concentration vs Time
Plot in Figure C-45
- Topographic Contours (20 foot intervals)

UMETCO MINERALS CORPORATION

MODELED CHLORIDE DISTRIBUTION
AT 100 YEARS
LAYER 1
GAS HILLS SITE

NOVEMBER 2000

FIGURE C-41



— Point of Exposure (POE)
— Point of Compliance (POC)

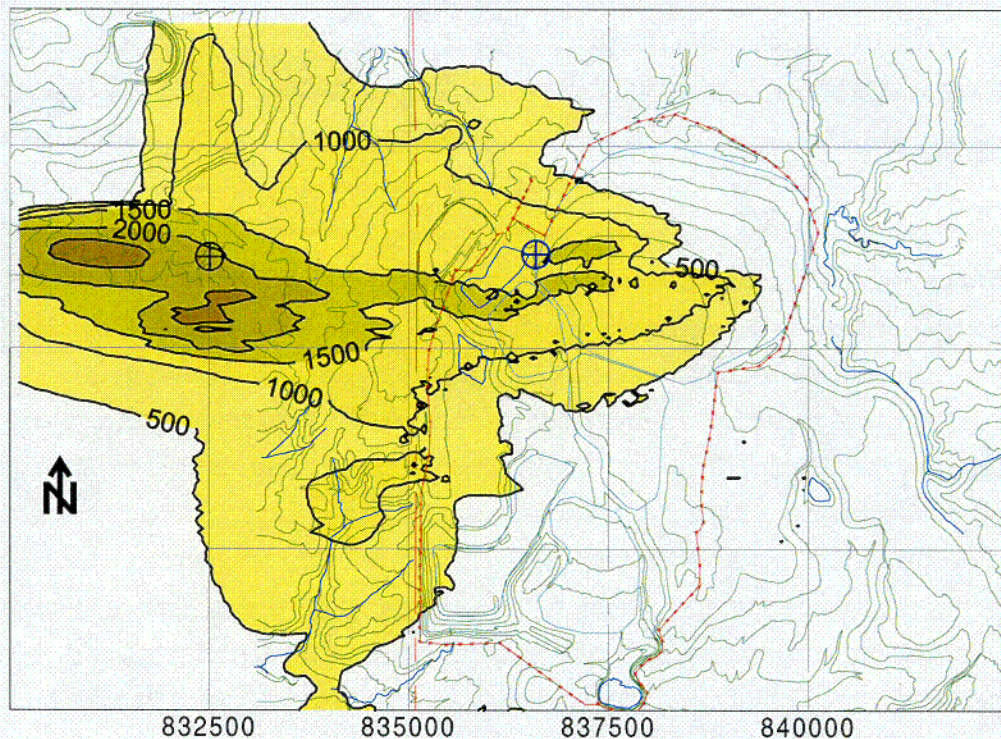
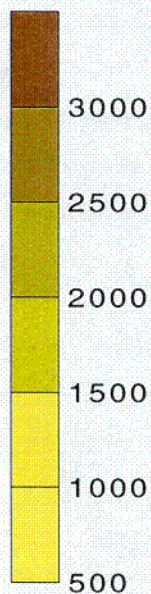
UMETCO MINERALS CORPORATION

CHLORIDE CONCENTRATION VERSUS TIME
AT THE SOUTHWESTERN FLOW REGIME
POINT OF EXPOSURE AND POINT OF COMPLIANCE
GAS HILLS SITE

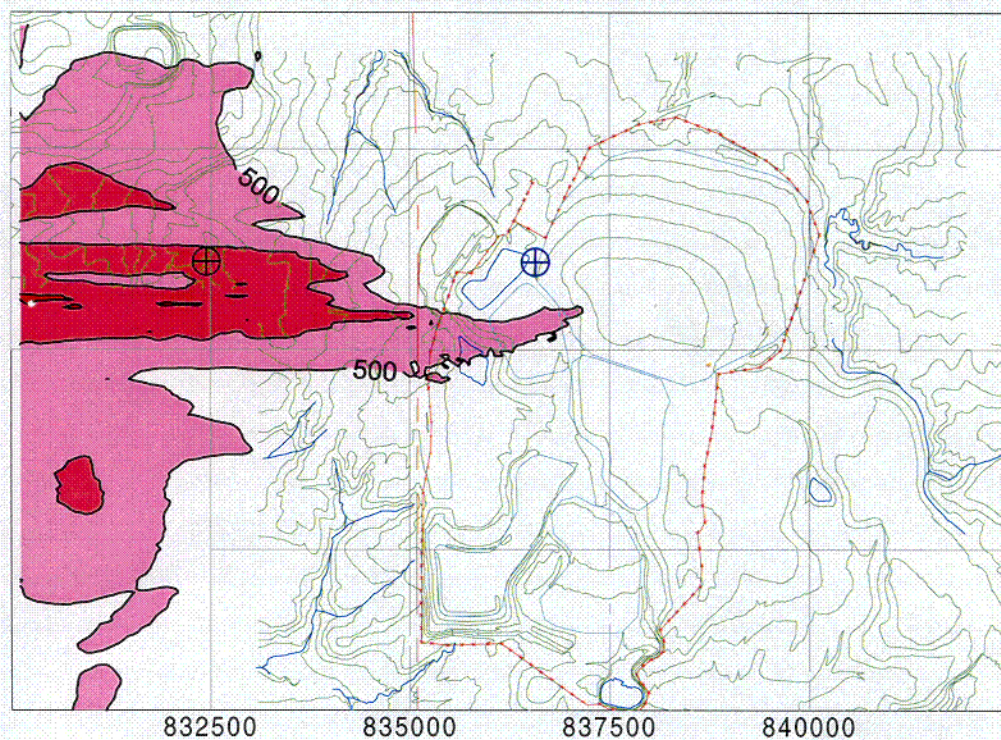
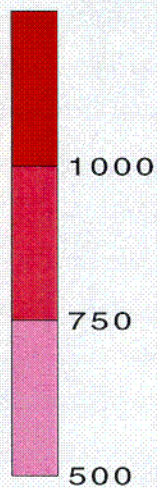
NOVEMBER 2000

FIGURE C-42

Sulfate Concentration
at 100 Years (mg/l)



Sulfate Concentration
at 200 Years (mg/l)



⊕ Point of Compliance For Concentration vs Time
Plot in Figure C-47

⊕ Point of Exposure For Concentration vs Time
Plot in Figure C-47

Topographic Contours (20 foot intervals)

UMETCO MINERALS CORPORATION

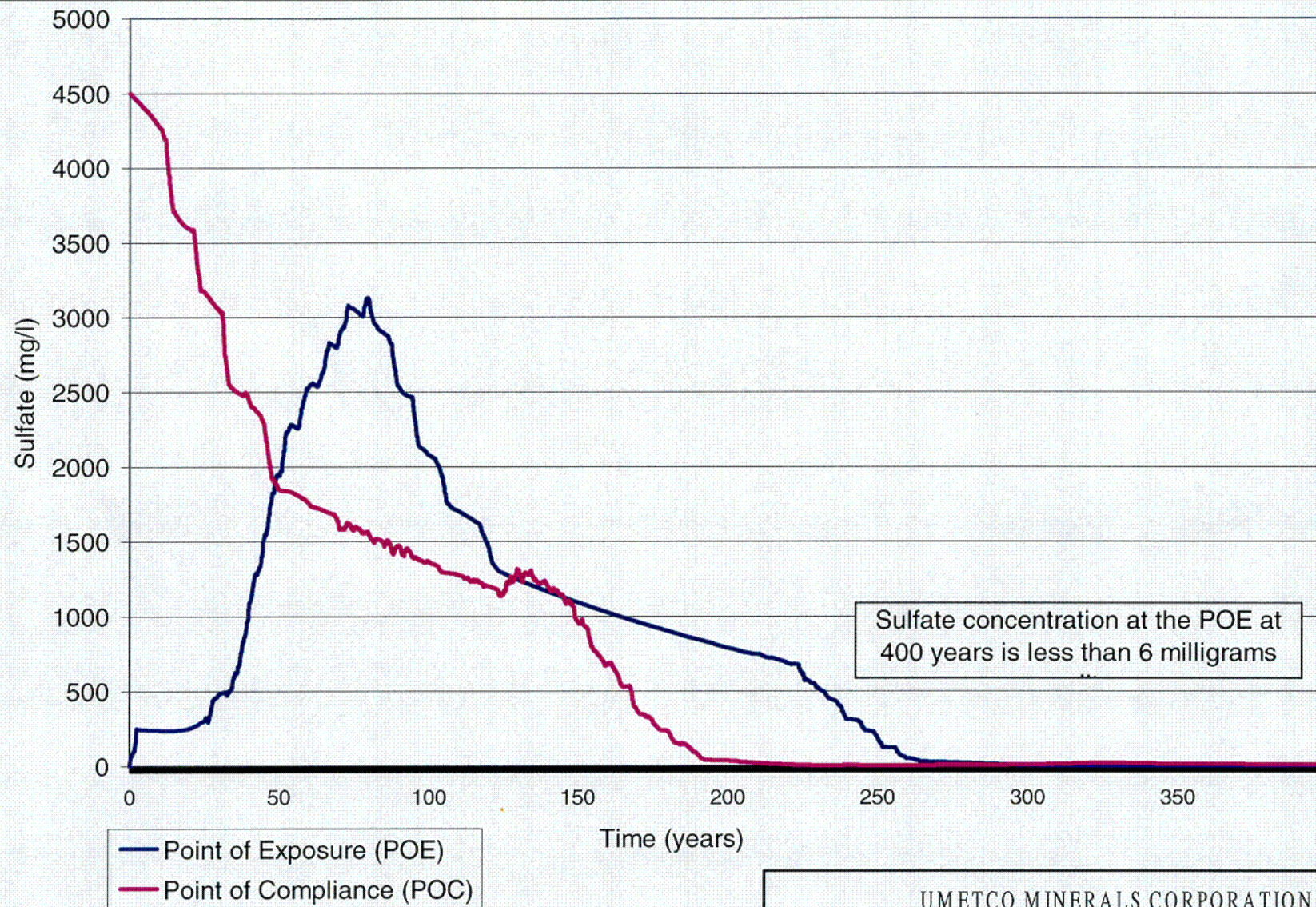
MODELED SULFATE DISTRIBUTION
AT 100 AND 200 YEARS
LAYER 3

GAS HILLS SITE

NOVEMBER 2000

FIGURE C-43

C-12

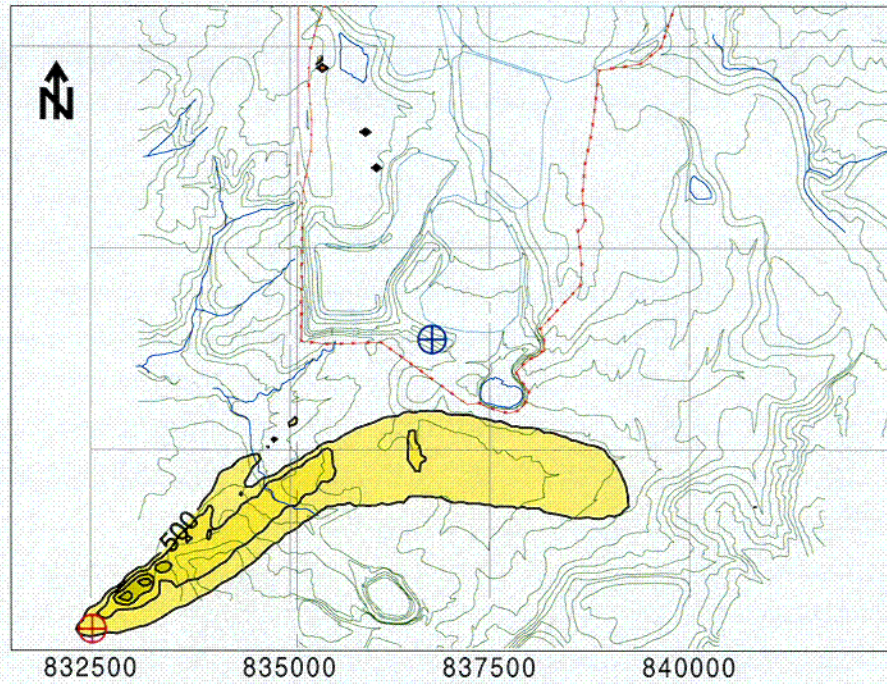
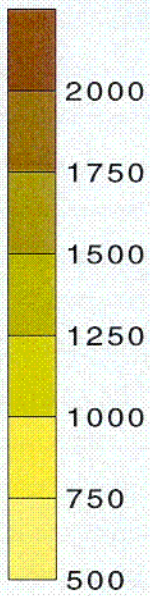


UMETCO MINERALS CORPORATION
SULFATE CONCENTRATION VERSUS TIME
AT THE WESTERN FLOW REGIME
POINT OF EXPOSURE AND POINT OF COMPLIANCE
GAS HILLS SITE

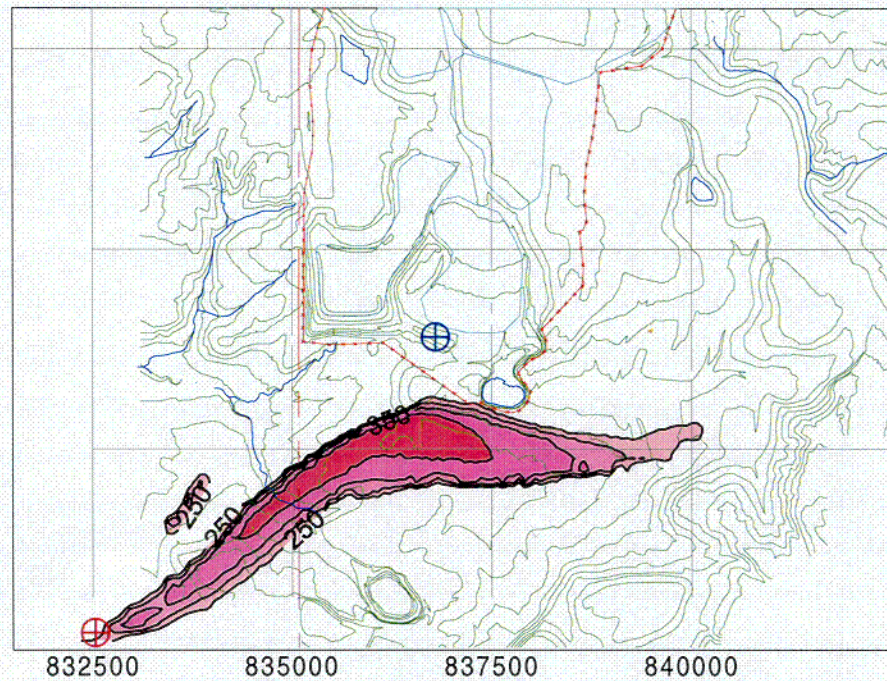
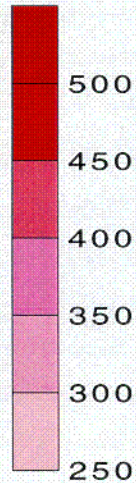
NOVEMBER 2000

FIGURE C-44

Sulfate Concentration
at 100 Years (mg/l)



Sulfate Concentration
at 200 Years (mg/l)



- ⊕ Point of Compliance For Concentration vs Time Plot in Figure C-49
- ⊕ Point of Exposure For Concentration vs Time Plot in Figure C-49
- Topographic Contours (20 foot intervals)

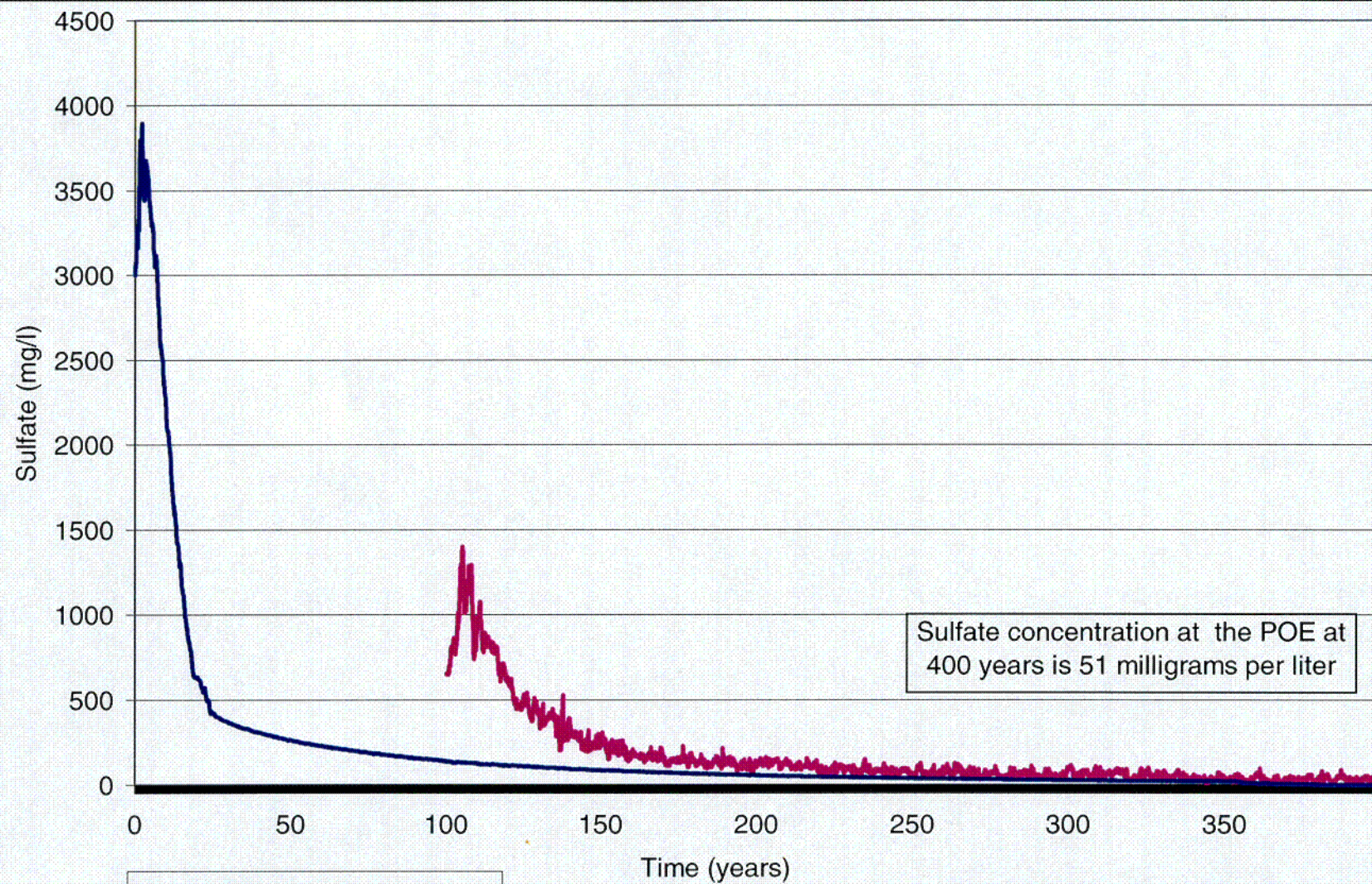
UMETCO MINERALS CORPORATION

MODELED SULFATE DISTRIBUTION
AT 100 AND 200 YEARS
LAYER 1
GAS HILLS SITE

NOVEMBER 2000

FIGURE C-45

C-14



— Point of Exposure
— Point of Compliance

Sulfate concentration at the POE at 400 years is 51 milligrams per liter

UMETCO MINERALS CORPORATION

SULFATE CONCENTRATION VERSUS TIME
AT THE SOUTHWESTERN FLOW REGIME
POINT OF EXPOSURE AND POINT OF COMPLIANCE

NOVEMBER 2000

GAS HILLS SITE

FIGURE C-46

C-15

Appendix D
Water Rights Search Documentation

Appendix D

Water Rights Search Documentation

This appendix documents the results of a search of ground and surface water rights within 5 kilometers of the Gas Hills site that was based on Wyoming State Engineer's Office records dated August 2000 (electronic file version). This office was contacted in April 2001 to obtain more recent information; however, electronic data were not provided for the entire database, precluding computerized analysis of the current water rights search records (n=1273 based on the Aug-2000 search). A hardcopy of the April 2001 water rights search was provided; this file appears to be consistent with the August 2000 search results presented here.

Although the request was for data applying to the area located within 5 km of the Gas Hills site, some records included in the water rights file apply to areas outside this 5-km radius. For example, the two records with a domestic (DOM) designation apply to uses that are outside of the water rights search boundary shown in Figure 2.22 of the text. Both upgradient and downgradient water uses were conservatively included in this search; however, the most likely areas of exposure correspond to locations/sections downgradient of the Gas Hills facility.

Table D.1 presents the results of the water rights search that was adapted from the August 2000 computer search. Due to the size of the file provided (which included numerous variables, some of which were undefined), only those fields applying to water uses and other salient information are provided. The original search yielded 1273 records, many of which reflected multiple records for a single permit number and/or use. To manage this file, all duplicate records were eliminated from the original water rights search file (see "n records" variable in Table D.1), yielding a total of 281 records. Also, a "Use Category" variable was added to facilitate data management and review. Table D.2 presents a summary of uses by category along with associated subtotals and percentages.

As indicated in Tables D.1 and D.2, most records have multiple water use designations (e.g., IND, TEM). Also, the search results file provided by the State Engineer's Office does not distinguish between groundwater and surface water rights records. In most cases, the applicable medium (groundwater vs. surface water) was apparent based on the facility name (e.g., a given "well" or "ditch"). However, in some cases such as distinction could not be made.

The August 2000 computer file included 7 Pathfinder Lucky MC records that had domestic (DOM) use designations. An attempt to clarify the status of these wells revealed that most of the Lucky MC wells were abandoned decades ago, so those designated in the database as domestic no longer exist (although there was no formal abandonment).¹ As a result, seven Lucky MC wells were excluded from the database.

¹ Source: Personal communication, T. Hardgrove, Pathfinder, Coordinator of Mine Environmental Affairs, May 3, 2001

According to T. Hardgrove of Pathfinder (see note on preceding page), one Lucky MC well, Lucky MC #8, is used for potable purposes. This well is listed as having an industrial use in Table D.1. In accordance with NRC requirements, this well is analyzed at least annually for radium-226, natural uranium, as well as the full DEQ water quality parameter suite. To date, results of these analyses have indicated no impacts to this well.

The April 2001 search results from the Wyoming State Engineer's Office were caveated as follows: "These are the groundwater rights of record in this office and may or may not represent the actual situation on the ground." (letter from D. Parkin, State Engineer's Office, April 18, 2001). The issues discussed above regarding spurious records for Pathfinder's Lucky MC wells (in particular, those with domestic use designations) substantiate the reasoning underlying such a caveat.

The water use terms listed in Tables D.1 and D.2 are defined as follows:

<u>Term</u>	<u>Definition</u>
DEW	Dewatering
DOM	Domestic
DRI	Oil/gas drilling
DSP	Domestic supply
FIS	Fish propagation
FLO	Flood control
IND	Industrial
IRR	Irrigation
MAN	Manufacturing
MIN	Mining
MIS	Miscellaneous
MON	Monitoring
MUN	Municipal
POW	Power development
REC	Recreation
RES	Reservoir supply
STO	Stock
TEM	Temporary use (e.g., for road construction or oil drilling)
UTI	Public utility
WET	Wetlands
WIL	Wildlife

Table D.1 Water Rights Search Results for Gas Hills Site Vicinity (5-km Radius), Sorted by Water Use Category

Permit No.	n records	Township	Range	Section(s)	Qtr	Use	Use Category	Facility Name	Applicant	PriorityText
P37858W	1	33	88	22	NWSW	DOM	Domestic	ALLISON #4	VELDA ALLISON	05/16/1977
P710G	1	33	90	32	NENE	DOM	Domestic	SAGEBRUSH #1 ON CLAIM SAGEBRUSH #4	FEDERAL URANIUM CORPORATION	09/24/1957
Subtotal:						2				
P47062W	44	32, 33	90	mult.	mult.	DEW, RES, IND, MIS	Industrial	WEST GAS HILL MINE SUMP	PATHFINDER MINES CORP. LUCKY MC MINE	09/18/1978
Subtotal:						1				
CU10/160A	81	32, 33	90	mult.	mult.	IND	Industrial	LUCKY MC #11 WELL	USDI BLM	12/06/1968
CU10/187A	81	32, 33	90	mult.	mult.	IND	Industrial	LUCKY MC #8 WELL	USDI BLM	03/14/1958
CU2/199A	2	33	90	28, 33	mult.	IND	Industrial	FEDERAL WATER #5 WELL	FEDERAL-AMERICAN PARTNERS	06/15/1959
CU2/200A	2	33	90	28, 33	mult.	IND	Industrial	FEDERAL WATER #6 WELL	FEDERAL-AMERICAN PARTNERS	06/15/1959
CU2/201A	2	33	90	28, 33	mult.	IND	Industrial	FEDERAL WATER #8 WELL	FEDERAL-AMERICAN PARTNERS	06/15/1959
CU2/202A	2	33	90	28, 33	mult.	IND	Industrial	FEDERAL WATER #13 WELL	FEDERAL-AMERICAN PARTNERS	10/11/1980
CU2/204A	2	33	90	32, 33	mult.	IND	Industrial	TABLESTAKES #1 WELL	FEDERAL-AMERICAN PARTNERS	07/02/1973
CU2/205A	2	33	90	29, 33	mult.	IND	Industrial	SAGEBRUSH #1 WELL	FEDERAL-AMERICAN PARTNERS	07/02/1973
P151W	1	33	90	28	SESW	IND	Industrial	FEDERAL WATER #5	FEDERAL-AMERICAN PARTNERS	06/15/1959
P152W	1	33	90	28	SWSE	IND	Industrial	FEDERAL WATER #6	FEDERAL-AMERICAN PARTNERS	06/15/1959
P154W	2	33	90	28, 33	mult.	IND	Industrial	FEDERAL WATER #8	FEDERAL-AMERICAN PARTNERS	06/15/1959
P215W	5	33	89	15, 18	mult.	IND	Industrial	WATER WELL #3	GLOBE GLOBE MINING CO.	08/24/1959
P23625W	2	33	90	32, 33	mult.	IND	Industrial	TABLESTAKES 1	FEDERAL-AMERICAN PARTNERS	07/02/1973
P23626W	2	33	90	29, 33	mult.	IND	Industrial	SAGEBRUSH #1	FEDERAL-AMERICAN PARTNERS	07/02/1973
P2395W	85	32, 33	90	mult.	mult.	IND	Industrial	LUCKY MC #11	PATHFINDER MINES CORPORATION	12/06/1968
P30735W	3	33	90	22, 24	mult.	IND	Industrial	LUCKY MC WELL #12	PATHFINDER MINES CORPORATION	08/08/1975
P3W	3	32	90	0, 2	mult.	IND	Industrial	LUCKY MC #8	PATHFINDER MINES CORPORATION	03/14/1958
P43159W	2	33	90	22, 24	NESW	IND	Industrial	LUCKY MC #14	PATHFINDER MINES CORPORATION	03/31/1978
P530G	1	33	90	26	SWNE	IND	Industrial	JAY #1	VITRO MINERALS CORPORATION	01/29/1957
P648W	2	33	90	28, 33	mult.	IND	Industrial	FEDERAL WATER #13	FEDERAL-AMERICAN PARTNERS	10/11/1960
P73515W	4	33	89	15, 18	mult.	IND	Industrial	PROCESS WATER WELL #6	UMETCO MINERALS CORPORATION	06/19/1986
P7942R	2	33	90	28	NESW	IND	Industrial	TAILING DAM #2 FEDERAL AMERICAN PARTNERS	FEDERAL-AMERICAN PARTNERS	06/14/1978
P7951R	3	33	90	23	NWSE	IND	Industrial	LAGOON 1	PATHFINDER MINES CORPORATION	05/17/1978
P7952R	3	33	90	23	NWSE	IND	Industrial	LAGOON 2	PATHFINDER MINES CORPORATION	05/17/1978
P7964R	2	33	90	25	NESW	IND	Industrial	AREA 7 SETTLING	PATHFINDER MINES CORPORATION	09/14/1978
P8037R	5	33	90	22	mult.	IND	Industrial	TAILINGS #1	PATHFINDER MINES CORPORATION	12/29/1978
P8038R	10	33	90	15, 22	mult.	IND	Industrial	TAILINGS #2	PATHFINDER MINES CORPORATION	12/29/1978
P8040R	8	33	90	15, 16	mult.	IND	Industrial	TAILINGS #3	PATHFINDER MINES CORPORATION	12/29/1978
P8122R	4	33	89	15	mult.	IND	Industrial	A-9 PIT SUBGRADE TAILINGS DISPOSAL	UNION CARBIDE CORPORATION	04/03/1980
P8123R	5	33	89	15	mult.	IND	Industrial	TAILINGS EVAPORATION POND	UMETCO MINERALS CORPORATION	04/03/1980
P8239R	6	33	90	32	mult.	IND	Industrial	SAGEBRUSH-TABLESTAKES TAILINGS DISPOSAL	FEDERAL-AMERICAN PARTNERS	02/29/1981
P8314R	5	33	90	32	mult.	IND	Industrial	SAGEBRUSH-TABLESTAKES TAILINGS DSP SOLAR EVAP A	AMERICAN NUCLEAR CORPORATION	07/06/1981
P8315R	3	33	90	32	mult.	IND	Industrial	SAGEBRUSH-TABLESTAKES TAILINGS DSP SOLAR EVAP B	AMERICAN NUCLEAR CORPORATION	07/06/1981
P984W	2	33	90	32	mult.	IND	Industrial	FEDERAL WATER #16	FEDERAL-AMERICAN PARTNERS	02/16/1963
Subtotal:						34				
P8208R	3	33	89	9	mult.	IND, MIS	Industrial	ADOBE OIL & GAS CORPORATION EVAPORATION POND	ADOBE OIL & GAS CORPORATION	03/02/1979
Subtotal:						1				
P10444R	4	33	89	15	mult.	IND, TEM	Industrial	GHP #2 EVAPORATION POND	UMETCO MINERALS CORPORATION	11/21/1996
P30310D	2	33	89	32	mult.	IND, TEM	Industrial	A M L 16-C-2 WATER HAUL	ROTH TRUCKING	11/06/1989
P31616D	1	33	90	32	SWNE	IND, TEM	Industrial	SAGEBRUSH PIT WATER HAUL	SCHMID SAND AND GRAVEL, INC.	08/19/1996
P8039R	13	33	90	15, 16, 21, 22	mult.	IND, TEM	Industrial	TAILINGS #2A	PATHFINDER MINES CORPORATION	12/29/1978
P8041R	18	33	90	9, 10, 15, 16	mult.	IND, TEM	Industrial	TAILINGS #4	PATHFINDER MINES CORPORATION	12/29/1978
Subtotal:						5				
P26779D	6	34	89	1	mult.	OIL, TEM, IND, DRI	Industrial	MATADOR LAND & CATTLE CO WATER HAUL #1	W. W. BUTLER	09/30/1980
Subtotal:						1				
P47060W	9	33	90	22, 23, 26	mult.	RES, IND, MIS	Industrial	ENL LUCKY MC #8	PATHFINDER MINES CORP. LUCKY MC MINE	09/18/1979
P67075W	10	33	89	15	mult.	RES, IND, MIS	Industrial	GUARD WELL 38	USDI, BLM** UNION CARBIDE CORP.	02/16/1984
Subtotal:						2				
P23192D	1	33	90	35	SESW	TEM, IND	Industrial	LUCKY MAC SUMP #2	WYOMING STATE HIGHWAY DEPARTMENT	10/14/1969
P25540D	3	32, 33, 34	89	0		TEM, IND	Industrial	HYDROSTATIC TEST-NORTH PIPE LINE PUMP POINT	COLORADO INTERSTATE GAS COMPANY	10/19/1977
P8461R	3	33	89	9	mult.	TEM, IND	Industrial	RIM #1 SETTLING	UMETCO MINERALS CORPORATION	09/14/1981
P8462R	2	33	89	8	NESE	TEM, IND	Industrial	RIM #2 SETTLING	UMETCO MINERALS CORPORATION	09/14/1981
P8463R	2	33	89	8	NESE	TEM, IND	Industrial	RIM #3 SETTLING	UMETCO MINERALS CORPORATION	09/14/1981
P8641R	4	33	89	15	mult.	TEM, IND	Industrial	A 9 PIT TAILINGS DISPOSAL	UMETCO MINERALS CORPORATION	07/27/1983
Subtotal:						6				
P25256D	52	32	90	15, 3, 10, 11	mult.	TEM, IND, DRI	Industrial	AMERICAN NUCLEAR URANIUM WATERHAUL - PEACH	AMERICAN NUCLEAR CORPORATION	12/01/1976

Table D.1 Water Rights Search Results for Gas Hills Site Vicinity (5-km Radius), Sorted by Water Use Category

Permit No.	n records	Township	Range	Section(s)	Qtr	Use	Use Category	Facility Name	Applicant	PriorityText
P26230D	32	33	90	11, 19, 20	mult.	TEM,IND,MIN,DRI	Industrial	COYOTE WATER HOLE #1	D. H. BRANSON	06/26/1979
Subtotal:						1				
C21/158A	3	33	88	34	mult.	IRR	Irrigation	HANES DITCH	S. L. HANES	04/02/1900
C29/292A	5	32	89	15	mult.	IRR	Irrigation	ASBELL DITCH	S. P. ASBELL	02/10/1902
C33/360A	2	33	88	7	SENE	IRR	Irrigation	HOLLIDAY DITCH	JOHN J. HOLLIDAY	08/27/1896
C35/020A	2	33	88	3	SESE	IRR	Irrigation	JAMESON DITCH	L. L. JAMESON	12/10/1904
C35/021A	3	33	88	13	mult.	IRR	Irrigation	JAMESON #1 DITCH	MRS. EVALYN JAMESON	12/14/1910
C44/537A	2	33	88	24	NENE	IRR	Irrigation	JAMESON #2 DITCH	LAURANCE L. JAMESON	12/26/1912
C44/538A	3	33	88	3, 10	mult.	IRR	Irrigation	JAMESON RES	LAURANCE L. JAMESON	10/11/1916
C44/539A	3	33	88	2, 10, 11	mult.	IRR	Irrigation	JAMESON OUTLET DITCH	LAURANCE L. JAMESON	10/11/1916
C47/089A	4	32	89	27	mult.	IRR	Irrigation	SAGE HEN DITCH	ROY E. TURNER	05/16/1923
C77/017A	4	33	88, 89	6, 7, 1	SENE	IRR	Irrigation	ENL CROSS ELL DITCH	CLEAR CREEK CATTLE COMPANY	03/18/1926
C77/025A	13	33	88, 89	6, 7, 1	mult.	IRR	Irrigation	CROSS ELL DITCH	CLEAR CREEK CATTLE COMPANY	10/11/1909
C77/041A	3	33, 34	89	1, 36	mult.	IRR	Irrigation	DIAMOND RING DITCH #5	CLEAR CREEK CATTLE CO. (LESSEE)	03/18/1926
P10370D	4	33	88	13	mult.	IRR	Irrigation	JAMISON DITCH #1	EVELYN JAMISON	12/14/1910
P11626D	2	33	88	24	NENE	IRR	Irrigation	JAMISON DITCH #2	LAWRENCE L. JAMISON	12/26/1912
P1209D	1	33	88	7	NWNW	IRR	Irrigation	ERVAY #1 & #2	MRS. M. E. ERVAY	05/11/1896
P1226D	1	33	88	17	NWNW	IRR	Irrigation	O K	JOSIE P. BIGGS	05/11/1896
P12946D	2	32	89	35, 36	mult.	IRR	Irrigation	BLACK JACK	JOE M. WELCH	01/06/1915
P14438D	3	33	88	2, 10, 11	mult.	IRR	Irrigation	THE JAMESON OUTLET DITCH	LAWRENCE L. JAMESON	10/11/1916
P16062D	1	32	89	22	SESW	IRR	Irrigation	SAGE HEN DITCH	HUGH RICHARD SMITH	05/06/1921
P16627D	5	32	89	22, 27	mult.	IRR	Irrigation	SAGE HEN DITCH	HESSIE WELCH	05/16/1923
P17093D	3	33, 34	89	1, 36	mult.	IRR	Irrigation	DIAMOND RING DITCH #5	DIAMOND RING CO.	03/18/1926
P1733R	5	32	89	34	mult.	IRR	Irrigation	SAGE HEN	J. L. & MARGARET MCINTOSH	10/04/1909
P20561D	3	33	88	10	mult.	IRR	Irrigation	LANDON #1	NELL C. JAMESON	12/16/1950
P20562D	5	33	88	3, 10	mult.	IRR	Irrigation	LANDON #2	NELL C. JAMESON	12/16/1950
P2115E	3	32	89	15	mult.	IRR	Irrigation	ASBELL	STARLING P. ASBELL	10/24/1909
P2649E	2	32	89	34	SESE	IRR	Irrigation	SAGE HEN	J. L. & MARGARET MCINTOSH	07/18/1912
P2754E	2	33	88	1, 7	mult.	IRR	Irrigation	CROSS ELL	GRIEVE BROTHERS	02/05/1913
P3367R	3	33	88	3, 10	mult.	IRR	Irrigation	JAMESON	LAURANCE L. JAMESON	10/11/1916
P3707D	5	32	89	15	mult.	IRR	Irrigation	ASBELL DITCH	STARLING P. ASBELL	02/10/1902
P4483E	5	33	88, 89	0, 6, 7, 1	SENE	IRR	Irrigation	ENL CROSS ELL	DIAMOND RING CO.	03/18/1926
P6329D	2	33	88	3	SESE	IRR	Irrigation	JAMESON DITCH	FRANK JAMESON	12/10/1904
P9340D	5	32	89	15	mult.	IRR	Irrigation	ASBELL #2	STARLING P. ASBELL	09/24/1909
P9341D	2	32	89	15	mult.	IRR	Irrigation	ASBELL #3	STARLING P. ASBELL	09/24/1909
P9431D	10	33	88, 89	6, 7, 1	mult.	IRR	Irrigation	CROSS ELL	LEONIDAS CLAYTON	10/11/1909
TD1272A	1	33	88	18	NENE	IRR	Irrigation	E COFFEY DITCH (CHG IN PART TO CITYLANDER PIPELINE)	EUGENE AMORETTI	09/21/1875
Subtotal:						35				
CU2/198A	1	33	90	33	NWNW	MIS	Miscellaneous	FEDERAL WATER #1 WELL	FEDERAL-AMERICAN PARTNERS	02/28/1958
CU2/203A	2	33	90	32, 33	mult.	MIS	Miscellaneous	FEDERAL WATER #16 WELL	FEDERAL-AMERICAN PARTNERS	02/16/1963
CU8/278A	1	33	90	31	NESE	MIS	Miscellaneous	DICK #1 WELL	UMETCO MINERALS CORP., LEASEE	07/26/1974
P103982W	2	33	90	24	mult.	MIS	Miscellaneous	LUCKY MC #14	USDI, BLM**BARNHART DRILLING COMPANY, INC	09/17/1996
P103983W	2	33	90	24	mult.	MIS	Miscellaneous	LUCKY MC #12	USDI, BLM**BARNHART DRILLING COMPANY, INC	09/17/1996
P104730W	5	33	89	15	mult.	MIS	Miscellaneous	ALJOB #2	USDI, BLM**UMETCO MINERALS CORPORATION	11/25/1996
P105283W	10	33	89	15, 22	mult.	MIS	Miscellaneous	A-8 PIT WELL	USDI, BLM**UMETCO MINERALS CORP	03/17/1997
P108233W	209	32, 33	89, 90	mult.	MIS	MIS	Miscellaneous	GH97WW-1	POWER RESOURCES INC	11/17/1997
P27451W	1	33	90	31	NESE	MIS	Miscellaneous	DICK #1	UMETCO MINERALS CORPORATION** USDI BLM	07/26/1974
P34024W	2	32	90	7	NWNW	MIS	Miscellaneous	GR-1	PATHFINDER MINES CORPORATION	06/18/1976
P38624W	2	32	90	3	SESE	MIS	Miscellaneous	PEACH #6	AMERICAN NUCLEAR CORPORATION	07/01/1977
P44612W	1	33	89	28	NESW	MIS	Miscellaneous	CAROL WELL #1	POWER RESOURCES INC.	11/25/1977
P64404W	5	32	89	5	mult.	MIS	Miscellaneous	ALLEGRETTI #1	USDI, BLM** ADOBE OIL & GAS CORPORATION	06/02/1983
P71821W	2	33	88	22, 24	mult.	MIS	Miscellaneous	WATERWORKS WELL	CLEAR CREEK CATTLE CO.	10/09/1984
P782G	1	33	90	33	NWNW	MIS	Miscellaneous	FEDERAL WATER #1	FEDERAL-AMERICAN PARTNERS	02/28/1958
P7833R	3	33	90	31	mult.	MIS	Miscellaneous	KAY	UNION CARBIDE CORPORATION	04/18/1977
P84835W	1	33	90	25	NENW	MIS	Miscellaneous	GUNNEL #1	SILVER KING MINES, INC.	04/11/1991
P85776W	4	33	89	10, 15	NESW	MIS	Miscellaneous	ENL MWC-42	UMETCO MINERALS CORPORATION	07/24/1991
P87214W	7	32	90	2, 35, 36	mult.	MIS	Miscellaneous	AREA 4 RECLAMATION RESERVOIR	PATHFINDER MINES CORP.	12/24/1991
P87215W	5	33	90	26	mult.	MIS	Miscellaneous	AREA 5 RECLAMATION RESERVOIR	PATHFINDER MINES CORP.	12/24/1991
P89541W	4	33	89	10, 15	mult.	MIS	Miscellaneous	DW-4	UMETCO MINERALS CORPORATION	09/03/1992
P91280W	5	33	89	10, 15	mult.	MIS	Miscellaneous	MWC 58	UMETCO MINERALS CORPORATION	03/19/1993
P91282W	5	33	89	10, 15	mult.	MIS	Miscellaneous	MWC 60	UMETCO MINERALS CORPORATION	03/19/1993
P91283W	5	33	89	10, 15	mult.	MIS	Miscellaneous	MWC 61	UMETCO MINERALS CORPORATION	03/19/1993

Table D.1 Water Rights Search Results for Gas Hills Site Vicinity (5-km Radius), Sorted by Water Use Category

Permit No.	n records	Township	Range	Section(s)	Qtr	Use	Use Category	Facility Name	Applicant	PriorityText
P91284W	4	33	89	10, 15	mult.	MIS	Miscellaneous	MWC 62	UMETCO MINERALS CORPORATION	03/19/1993
P92098W	4	33	89	10, 15	mult.	MIS	Miscellaneous	MWC-66	UMETCO MINERALS CORPORATION	06/18/1993
Subtotal:						26				
P104718W	2	33	89	15, 22	NENW	MIS,DEW.RES	Miscellaneous	C-18 PIT	UMETCO MINERALS CORPORATION	11/21/1996
P95290W	28	33	89	22, 27, 28	mult.	MIS,DEW.RES	Miscellaneous	BUSS I RESERVOIR	USDI, BLM** POWER RESOURCES INC.	04/26/1994
Subtotal:						2				
P20563D	1	33	88	12	SWSE	RES	Miscellaneous	SIX MILE SUPPLY	NELL C. JAMESON	12/16/1950
P20566D	1	33	88	24	NWNE	RES	Miscellaneous	FALES CREEK DIVERSION	NELL C. JAMESON	12/16/1950
Subtotal:						2				
P7940R	2	33	89	28	SENE	TEM.FLO	Miscellaneous	GRACE #1	ALTA GOLD COMPANY	02/24/1978
Subtotal:						1				
P82823W	1	33	89	31	NESW	MIS,MON	Monitoring	MUSKRAT-MO	POWER RESOURCES INC.	06/28/1990
P82824W	1	33	89	31	NWSE	MIS,MON	Monitoring	MUSKRAT PUMP	POWER RESOURCES INC.	06/28/1990
P82825W	1	33	89	31	NWSE	MIS,MON	Monitoring	MUSKRAT MP	POWER RESOURCES INC.	06/28/1990
P83055W	1	33	89	10	NWSW	MIS,MON	Monitoring	MW-21A	UMETCO MINERALS CORPORATION	07/23/1990
P84648W	1	33	89	15	NWNW	MIS,MON	Monitoring	MWI 43	UMETCO MINERALS CORPORATION	03/18/1991
P85345W	1	32	90	2	NWNE	MIS,MON	Monitoring	WEST MUSKRAT MO-1	POWER RESOURCES INC.	06/10/1991
P85349W	1	32	90	2	SWNE	MIS,MON	Monitoring	WEST MUSKRAT MU-1	POWER RESOURCES INC.	06/10/1991
P85350W	1	32	90	2	NWNE	MIS,MON	Monitoring	WEST MUSKRAT M-1	POWER RESOURCES INC.	06/10/1991
P85351W	1	32	90	2	SWNE	MIS,MON	Monitoring	WEST MUSKRAT M-2	POWER RESOURCES INC.	06/10/1991
P91081W	1	33	89	15	NESW	MIS,MON	Monitoring	MW-63	UMETCO MINERALS CORPORATION	03/19/1993
P91082W	1	33	89	10	SWSW	MIS,MON	Monitoring	MW-64	UMETCO MINERALS CORPORATION	03/19/1993
P91083W	1	33	89	15	SWNW	MIS,MON	Monitoring	MW-65	UMETCO MINERALS CORPORATION	03/19/1993
P92914W	1	33	89	28	SENE	MIS,MON	Monitoring	PRI #1	PRI ENVIRONMENTAL INC.	10/01/1993
P93567W	1	33	89	22	NENE	MIS,MON	Monitoring	LA-8	LIDSTONE & ANDERSON INC.	12/10/1993
Subtotal:						14				
P106601W	1	32	90	12	SENE	MON	Monitoring	PCHM097-1	GOEMEX MINERALS, INC	07/01/1997
P106602W	1	32	90	12	SENE	MON	Monitoring	PCHMP 97-1	GOEMEX MINERALS, INC	07/01/1997
P106686W	1	33	89	22	NESW	MON	Monitoring	PIX MU 97-1	POWER RESOURCES INC.	07/01/1997
P106687W	1	33	89	34	NENW	MON	Monitoring	BUMP 97-1	POWER RESOURCES INC.	07/01/1997
P106688W	1	33	89	34	NENW	MON	Monitoring	BUMU 97-1	POWER RESOURCES INC.	07/01/1997
P106689W	1	33	89	34	NENW	MON	Monitoring	BUMU 97-1	POWER RESOURCES INC.	07/01/1997
P106690W	1	33	89	21	SESE	MON	Monitoring	GW 10	POWER RESOURCES INC.	07/01/1997
P106691W	1	32	90	11	SENE	MON	Monitoring	HBMP 97-1	POWER RESOURCES INC.	07/01/1997
P112334W	1	32	90	2	NWNE	MON	Monitoring	MO-3	POWER RESOURCES INC.	10/08/1998
P112335W	1	32	90	2	SWNE	MON	Monitoring	M-3C	POWER RESOURCES INC.	10/08/1998
P112336W	1	32	90	2	NWNE	MON	Monitoring	M-4	POWER RESOURCES INC.	10/08/1998
Subtotal:						11				
P62978W	1	32	90	3	SENE	MON,DEW.RES,MIS	Monitoring	COTTER FERGUSON MINE PIT SUMP	AMERICAN NUCLEAR CORPORATION	12/16/1982
Subtotal:						1				
P103584W	1	33	89	32	NENW	MON,MIS	Monitoring	BS 96 M-1	POWER RESOURCES INC.	08/29/1996
P103585W	1	32	90	3	SWNE	MON,MIS	Monitoring	PEACH M1	POWER RESOURCES INC.	08/29/1996
P103586W	1	33	89	28	NESE	MON,MIS	Monitoring	WLSL96M-1	POWER RESOURCES INC.	08/29/1996
P103587W	1	33	89	31	NESW	MON,MIS	Monitoring	MU 96 M-2	POWER RESOURCES INC.	08/29/1996
P103588W	1	33	89	31	NESW	MON,MIS	Monitoring	MU 96 M-1	POWER RESOURCES INC.	08/29/1996
P103589W	1	32	90	3	NESE	MON,MIS	Monitoring	PEACH M-2	POWER RESOURCES INC.	08/29/1996
P103590W	1	32	90	3	NESE	MON,MIS	Monitoring	PEACH MP-1	POWER RESOURCES INC.	08/29/1996
P103591W	1	33	89	28	NWSE	MON,MIS	Monitoring	WLSL96MP1	POWER RESOURCES INC.	08/29/1996
P104183W	1	33	89	14	NESW	MON,MIS	Monitoring	MW 75	UMETCO MINERALS CORPORATION	10/15/1996
P104184W	1	33	89	8	NESE	MON,MIS	Monitoring	MW 76	UMETCO MINERALS CORPORATION	10/15/1996
P104185W	1	33	89	9	SWSE	MON,MIS	Monitoring	MW 77	UMETCO MINERALS CORPORATION	10/15/1996
P104391W	1	32	90	3	NESE	MON,MIS	Monitoring	PEACH MP-2	POWER RESOURCES INC.	10/30/1996
P105492W	1	33	89	10	SWSW	MON,MIS	Monitoring	MW 70A	UMETCO MINERALS CORP	04/11/1997
P105493W	1	33	89	10	SWSW	MON,MIS	Monitoring	MW 70B	UMETCO MINERALS CORP	04/11/1997
P105494W	1	33	89	16	NENE	MON,MIS	Monitoring	MW 71A	UMETCO MINERALS CORP	04/11/1997
P105495W	1	33	89	16	NENE	MON,MIS	Monitoring	MW 71B	UMETCO MINERALS CORP	04/11/1997
P105496W	1	33	89	22	NWNW	MON,MIS	Monitoring	MW 72	UMETCO MINERALS CORP	04/11/1997
P105497W	1	33	89	10	SWSW	MON,MIS	Monitoring	MW 73	UMETCO MINERALS CORP	04/11/1997
P105497W	1	33	89	22	NENW	MON,MIS	Monitoring	MW 73	UMETCO MINERALS CORP	04/11/1997
P105498W	1	33	89	22	NWNW	MON,MIS	Monitoring	MW 74	UMETCO MINERALS CORP	04/11/1997
P106684W	1	33	89	22	NESW	MON,MIS	Monitoring	PIX MO 97-1	POWER RESOURCES INC.	07/01/1997

Table D.1 Water Rights Search Results for Gas Hills Site Vicinity (5-km Radius), Sorted by Water Use Category

Permit No.	n records	Township	Range	Section(s)	Qtr	Use	Use Category	Facility Name	Applicant	PriorityText
P106685W	1	33	89	22	NESW	MON, MIS	Monitoring	PIX MU 97-1	POWER RESOURCES INC.	07/01/1997
P107839W	1	33	89	31	NESE	MON, MIS	Monitoring	MUMP 97-1	POWER RESOURCES INC.	10/06/1997
P108001W	1	33	89	15	SESW	MON, MIS	Monitoring	MW78	UMETCO MINERALS CORP	11/04/1997
P108002W	1	33	89	15	SESW	MON, MIS	Monitoring	MW79	UMETCO MINERALS CORP	11/04/1997
P108003W	1	33	89	15	SESW	MON, MIS	Monitoring	MW80	UMETCO MINERALS CORP	11/04/1997
P108004W	1	33	89	10	SWSW	MON, MIS	Monitoring	MW81	UMETCO MINERALS CORP	11/04/1997
P38619W	2	32	90	3	NESE	MON, MIS	Monitoring	PEACH #1	AMERICAN NUCLEAR CORPORATION	07/01/1977
P38620W	2	32	90	3	NESE	MON, MIS	Monitoring	PEACH #2	AMERICAN NUCLEAR CORPORATION	07/01/1977
P38621W	2	32	90	3	NESE	MON, MIS	Monitoring	PEACH #3	AMERICAN NUCLEAR CORPORATION	07/01/1977
P38622W	2	32	90	3	NESE	MON, MIS	Monitoring	PEACH #4	AMERICAN NUCLEAR CORPORATION	07/01/1977
P38623W	2	32	90	3	NESE	MON, MIS	Monitoring	PEACH #5	AMERICAN NUCLEAR CORPORATION	07/01/1977
P38625W	2	32	90	3	SESE	MON, MIS	Monitoring	PEACH #7	AMERICAN NUCLEAR CORPORATION	07/01/1977
P38626W	2	32	90	10	NWNE	MON, MIS	Monitoring	PEACH #8	AMERICAN NUCLEAR CORPORATION	07/01/1977
P38627W	2	32	90	3	NENE	MON, MIS	Monitoring	PEACH #9	AMERICAN NUCLEAR CORPORATION	07/01/1977
P45237W	2	32	90	11	NWSW	MON, MIS	Monitoring	PEACH PIEZOMETER A	AMERICAN NUCLEAR CORPORATION	09/05/1978
P45238W	2	32	90	3	SWNW	MON, MIS	Monitoring	PEACH PIEZOMETER B	AMERICAN NUCLEAR CORPORATION	09/05/1978
P45240W	2	32	90	10	NWNE	MON, MIS	Monitoring	PEACH PIEZOMETER D	AMERICAN NUCLEAR CORPORATION	09/05/1978
P45241W	2	32	90	2	SWSE	MON, MIS	Monitoring	PEACH PIEZOMETER E	AMERICAN NUCLEAR CORPORATION	09/05/1978
P45348W	2	32	90	3	SWNW	MON, MIS	Monitoring		AMERICAN NUCLEAR CORPORATION	10/02/1978
P45368W	1	33	89	27	NESE	MON, MIS	Monitoring	MONITOR WELL GW 7	POWER RESOURCES INC.	09/26/1978
P45369W	1	33	89	27	NENE	MON, MIS	Monitoring	MONITOR WELL GW 8	SILVER KING MINES, INC.	09/26/1978
P45370W	1	33	89	28	NESE	MON, MIS	Monitoring	MONITOR WELL GW 9	SILVER KING MINES, INC.	09/26/1978
P46773W	1	33	89	31	SESW	MON, MIS	Monitoring	MUSKRAT P 3	SILVER KING MINES, INC.	02/22/1978
P46774W	1	33	89	31	NESW	MON, MIS	Monitoring	MUSKRAT P 4	SILVER KING MINES, INC.	02/22/1978
P46775W	1	33	89	31	SWSE	MON, MIS	Monitoring	MUSKRAT P 2	SILVER KING MINES, INC.	02/22/1978
P46776W	1	33	89	31	NWSE	MON, MIS	Monitoring	MUSKRAT P 1	SILVER KING MINES, INC.	02/22/1978
P77793W	1	33	89	9	SESE	MON, MIS	Monitoring	MW 28	UMETCO MINERALS CORPORATION	08/03/1988
P80434W	1	33	89	15	SESW	MON, MIS	Monitoring	MW 32	UMETCO MINERALS CORPORATION	08/04/1989
P80484W	1	33	89	14	SWNW	MON, MIS	Monitoring	LA 1	LIDSTONE & ANDERSON INC.	08/14/1989
P80485W	1	33	89	14	SWSW	MON, MIS	Monitoring	LA 2	LIDSTONE & ANDERSON INC.	08/14/1989
P80486W	1	33	89	15	SESE	MON, MIS	Monitoring	LA 3	LIDSTONE & ANDERSON INC.	08/14/1989
P80488W	1	33	89	22	NWNE	MON, MIS	Monitoring	LA 5	LIDSTONE & ANDERSON INC.	08/14/1989
P80489W	1	33	89	22	NENE	MON, MIS	Monitoring	LA 6	LIDSTONE & ANDERSON INC.	08/14/1989
P80490W	1	33	89	23	NWNW	MON, MIS	Monitoring	LA 7	LIDSTONE & ANDERSON INC.	08/14/1989
Subtotal:						55				
P78994W	3	32	90	7	mult.	RES, STO, MIS	Stock (& related uses)	2R RESERVOIR	PATHFINDER MINES CORPORATION	11/23/1988
Subtotal:						1				
C76/147A	2	32	90	22, 35	mult.	STO	Stock (& related uses)	BIG DIAMOND SPRING PIPE LINE	USDI BLM	03/26/1985
CR12/263A	2	32	90	27	NENE	STO	Stock (& related uses)	BIG DIAMOND SPRINGS	JAMES D. BAKER	01/16/1987
CR12/264A	2	32	90	25	NWSW	STO	Stock (& related uses)	EAST DIAMOND SPRINGS #1	JAMES D. BAKER	01/16/1987
CR12/265A	1	32	90	25	NESW	STO	Stock (& related uses)	EAST DIAMOND SPRINGS #3	JAMES D. BAKER	01/16/1987
CR12/266A	2	32	90	25	NWSW	STO	Stock (& related uses)	EAST DIAMOND SPRINGS #2	JAMES D. BAKER	01/16/1987
CR12/267A	2	32	90	28	NWSW	STO	Stock (& related uses)	WEST DIAMOND SPRINGS	JAMES D. BAKER	01/16/1987
P10039R	4	33	89	27	mult.	STO	Stock (& related uses)	BUSS I	POWER RESOURCES INC. **USDI BLM	03/31/1994
P10040R	4	33	89	27	mult.	STO	Stock (& related uses)	BUSS III	POWER RESOURCES INC. **USDI BLM	03/31/1994
P10041R	2	33	89	27	mult.	STO	Stock (& related uses)	CAP PIT	POWER RESOURCES INC. **USDI BLM	03/31/1994
P10066S	2	32	90	27	NENW	STO	Stock (& related uses)	MIDDLE DIAMOND SPRINGS	JAMES D. BAKER	01/16/1987
P10067S	2	32	90	28	NWSW	STO	Stock (& related uses)	WEST DIAMOND SPRINGS	JAMES D. BAKER	01/16/1987
P10068S	2	32	90	27	NENE	STO	Stock (& related uses)	BIG DIAMOND SPRINGS	JAMES D. BAKER	01/16/1987
P10069S	2	32	90	25	NWSW	STO	Stock (& related uses)	EAST DIAMOND SPRINGS #1	JAMES D. BAKER	01/16/1987
P10070S	2	32	90	25	NWSW	STO	Stock (& related uses)	EAST DIAMOND SPRINGS #2	JAMES D. BAKER	01/16/1987
P10071S	2	32	90	25	NESW	STO	Stock (& related uses)	EAST DIAMOND SPRINGS #3	JAMES D. BAKER	01/16/1987
P10075S	1	33	89	35	NESW	STO	Stock (& related uses)	RIM	USDI BLM CASPER DISTRICT	01/27/1987
P10806S	2	33	88	22	SWNW	STO	Stock (& related uses)	STROHECKER	CLEAR CREEK CATTLE CO. **A. STROHECKER	09/15/1989
P10808S	2	34	89	10	SWSW	STO	Stock (& related uses)	HORTON	USDI BLM	10/05/1989
P22949P	2	33	88	12	SESW	STO	Stock (& related uses)	SIX MILE WELL #1	USDI BLM CASPER DISTRICT	06/22/1966
P28924D	2	32	90	22, 35	mult.	STO	Stock (& related uses)	BIG DIAMOND SPRING PIPE LINE	USDI BLM	03/26/1985
P44457W	2	32	90	11	NENE	STO	Stock (& related uses)	CAMERON SPRINGS #1	MATADOR CATTLE COMPANY	08/02/1978
P44795W	2	33	88	26	NWNE	STO	Stock (& related uses)	MCKENZIE BOGS #1	MATADOR CATTLE COMPANY	09/01/1978
P44796W	2	33	88	7	NENE	STO	Stock (& related uses)	RATTLESNAKE #1	MATADOR CATTLE COMPANY	09/01/1978
P44797W	2	33	88	8	SENE	STO	Stock (& related uses)	RATTLESNAKE #2	MATADOR CATTLE COMPANY	09/01/1978
P44798W	2	33	88	8	SWNE	STO	Stock (& related uses)	RATTLESNAKE #3	MATADOR CATTLE COMPANY	09/01/1978
P44799W	2	33	88	8	SWSW	STO	Stock (& related uses)	RATTLESNAKE #4	MATADOR CATTLE COMPANY	09/01/1978

Table D.1 Water Rights Search Results for Gas Hills Site Vicinity (5-km Radius), Sorted by Water Use Category

Permit No.	n records	Township	Range	Section(s)	Qtr	Use	Use Category	Facility Name	Applicant	PriorityText
P44800W	2	33	88	17	NENE	STO	Stock (& related uses)	RATTLESNAKE #5	MATADOR CATTLE COMPANY	09/01/1978
P44801W	2	33	88	23	NWSE	STO	Stock (& related uses)	RATTLESNAKE #6	MATADOR CATTLE COMPANY	09/01/1978
P44802W	2	33	88	27	NENE	STO	Stock (& related uses)	RATTLESNAKE #7	MATADOR CATTLE COMPANY	09/01/1978
P45504W	2	32	90	28	SENW	STO	Stock (& related uses)	WEST DIAMOND #2	USDI, BLM	10/20/1978
P46376W	2	32	89	13	NWNE	STO	Stock (& related uses)	SAGE HEN #4	MATADOR CATTLE COMPANY	08/14/1978
P46377W	2	32	89	15	NENW	STO	Stock (& related uses)	SAGE HEN #3	MATADOR CATTLE COMPANY	08/14/1978
P46382W	2	32	90	18	SESE	STO	Stock (& related uses)	WILD HORSE #1	MATADOR CATTLE COMPNAY	08/03/1978
P46384W	2	33	88	19	SWSW	STO	Stock (& related uses)	HOLIDAY #1	MATADOR CATTLE COMPANY	08/14/1978
P46387W	2	33	88	6	NWSW	STO	Stock (& related uses)	LITTLE X-L #1	MATADOR CATTLE COMPANY	08/14/1978
P46388W	1	33	89	7	NWNW	STO	Stock (& related uses)	MEDICINE SPRINGS #1	MATADOR CATTLE COMPANY	08/14/1978
P49333W	2	32	89	8	SWSW	STO	Stock (& related uses)	BARREL SPRINGS #1	MATADOR CATTLE COMPANY	08/06/1979
P71756W	2	33	88	23	SWSW	STO	Stock (& related uses)	LESMEISTER SPRING	CLEAR CREEK CATTLE CO	09/13/1984
P71757W	2	33	88	6	NWSW	STO	Stock (& related uses)	LITTLE CROSS L #1 SPRING	CLEAR CREEK CATTLE CO	09/13/1984
P71758W	2	33	88	19	SWSW	STO	Stock (& related uses)	MCKENZIE SPRING	CLEAR CREEK CATTLE CO	09/13/1984
P71759W	2	33	88	9	SESW	STO	Stock (& related uses)	FRENCH ROCKS #1 WEST	CLEAR CREEK CATTLE CO	09/13/1984
P71760W	2	33	88	15	NWSW	STO	Stock (& related uses)	FRENCH ROCKS #2 EAST	CLEAR CREEK CATTLE CO	09/13/1984
P71761W	2	33	88	4	NENW	STO	Stock (& related uses)	EAST SLOPE #1	CLEAR CREEK CATTLE CO.	09/13/1984
P71763W	2	33	88	15	SESW	STO	Stock (& related uses)	STROECKER SPRING	ANNA STROECKER	10/09/1984
P71764W	2	33	88	6	SESE	STO	Stock (& related uses)	GOVERNMENT #1 WEST (RATTLESNAKE)	USDI BLM CASPER DISTRICT**CLEAR CREEK CATTLE CO.	10/09/1984
P71765W	2	33	88	15	NWNE	STO	Stock (& related uses)	GOVERNMENT #2 EAST (RATTLESNAKE)	USDI BLM CASPER DISTRICT**CLEAR CREEK CATTLE CO.	10/09/1984
P89649W	1	33	90	34	SWSW	STO	Stock (& related uses)	WILLOW SPRINGS WELL	USDI, BLM	11/01/1982
P93801W	1	33	89	18	NESW	STO	Stock (& related uses)	PWR #107 SPRING (77)	USDI, BLM	04/17/1926
P9388S	2	33	88	24	NWSW	STO	Stock (& related uses)	RATTLESNAKE #1	JOE BOWEN	04/02/1984
P93946W	1	32	90	7	NWSE	STO	Stock (& related uses)	PWR #107 SPRING(178)	USDI, BLM	04/17/1926
P94133W	1	33	88	30	NENE	STO	Stock (& related uses)	UPPER MAC SPRING	USDI, BLM	04/17/1926
P94134W	1	33	88	19	NWSW	STO	Stock (& related uses)	SPRING #7	USDI, BLM	04/17/1926
P94135W	1	33	88	19	SWSW	STO	Stock (& related uses)	SPRING #8	USDI, BLM	04/17/1926
P96884W	1	34	89	23	SWSW	STO	Stock (& related uses)	HERBST ERVAY BASIN #1	HERBST LAZY TY LAND CO	08/25/1994
P98996W	1	34	89	23	NESW	STO	Stock (& related uses)	HERBST ERVAY BASIN #2	HERBST LAZY TY LAND CO	04/20/1995
Subtotal:						55				
P71755W	2	33	88	7	NWNE	STO,DOM	Stock (& related uses)	CROSS L #2 SPRING	CLEAR CREEK CATTLE CO.	09/13/1984
Subtotal:						1				
P10857D	2	33	88	12	SESE	STO,IRR	Stock (& related uses)	DAMMRON DITCH	THE DIAMOND RING CO.	07/17/1911
Subtotal:						1				
C38/610A	2	32	89	34	SESE	STO,IRR,DOM	Stock (& related uses)	SAGE HEN DITCH	JAMES L. & MARGARET MCINTOSH	10/04/1909
C38/611A	1	32	89	34	SESE	STO,IRR,DOM	Stock (& related uses)	ENL SAGE HEN DITCH	JAMES L. & MARGARET MCINTOSH	07/18/1912
C38/612A	7	32	89	27, 34	mult.	STO,IRR,DOM	Stock (& related uses)	MARGARET DITCH	JAMES L. & MARGARET MCINTOSH	09/15/1913
C44/698A	3	33	89	4, 33	mult	STO,IRR,DOM	Stock (& related uses)	C B C DITCH	C. B. CUNNINGHAM	08/09/1918
P12002D	7	32	89	27, 34	mult.	STO,IRR,DOM	Stock (& related uses)	MARGARET DITCH	MCINTOSH	09/15/1913
P1314D	3	33	88	7	SENE	STO,IRR,DOM	Stock (& related uses)	HOLLIDAY	JOHN J. HOLLIDAY	08/27/1896
P15179D	6	33	89	4, 33	mult.	STO,IRR,DOM	Stock (& related uses)	C B C. DITCH	CHARLES B. CUNNINGHAM	08/09/1918
P1626R	5	32	89	10, 15	mult.	STO,IRR,DOM	Stock (& related uses)	ASBELL	STARLING P. ASBELL	09/24/1909
P9646D	2	32	89	34	SESE	STO,IRR,DOM	Stock (& related uses)	SAGE HEN	J.L. & MARGARET MCINTOSH	10/04/1909
Subtotal:						9				
P79467W	1	34	89	1	SWNE	STO,MIS	Stock (& related uses)	M3 #1	M 3 INDUSTRIES	03/31/1989
Subtotal:						1				
P9573R	7	33	89	22, 23	mult.	STO,WIL	Stock (& related uses)	VECA POND RES	BUREAU OF LAND MANAGEMENT	01/23/1990
P9722R	1	33	90	36		STO,WIL	Stock (& related uses)	AREA 4 RECLAMATION	PATHFINDER MINES CORP.**STATE LAND AND FARM LOAN OFFICE	12/24/1991
P9723R	1	33	90	26		STO,WIL	Stock (& related uses)	AREA 5 RECLAMATION RESERVOIR	PATHFINDER MINES CORPORATION	12/24/1991
Subtotal:						3				
P9442R	2	32	90	0, 7	SWNE	WIL,STO	Stock (& related uses)	2R RECLAMATION	PATHFINDER MINES CORP. LUCKY MC MINE	11/23/1988
Subtotal:						1				
P6542R	4	33	90	27, 34	mult	WIL,STO,MIS	Stock (& related uses)	WENCOR SPOIL PILE	WESTERN NUCLEAR CORP.	10/23/1959
Subtotal:						1				
Total: 1261		Grand Count: 274								

Source: Wyoming State Engineer's Office (August 2000)
 *Abandoned Lucky MC wells excluded

Table D.2 Summary of Water Uses in Gas Hills Site Vicinity. Sorted by Catagory, Specific Use

Use	Definition	Use Category	Count	Percentage	Subtotals by Category
DOM	Domestic	Domestic	2	0.7%	
IND	Industrial	Industrial	34	12.4%	
IND,TEM (or TEM,IND)	Industrial, temporary	Industrial	11	4.0%	
RES,IND,MIS	Reservoir supply, industrial, miscellaneous	Industrial	2	0.7%	
DEW,RES,IND,MIS	Dewatering, reservoir, industrial, miscellaneous	Industrial	1	0.4%	
IND,MIS	Industrial, miscellaneous	Industrial	1	0.4%	
OIL,TEM,IND,DRI	Oil, temporary, industrial, oil/gas drilling	Industrial	1	0.4%	
TEM,IND,DRI	Temporary, industrial, oil/gas drilling	Industrial	1	0.4%	count = 52
TEM,IND,MIN,DRI	Temporary, industrial, mining, oil/gas drilling	Industrial	1	0.4%	19%
IRR	Irrigation	Irrigation	35	12.8%	
MIS	Miscellaneous	Miscellaneous	26	9.5%	
MIS,DEW,RES	Miscellaneous, dewatering, reservoir supply	Miscellaneous	2	0.7%	
RES	Reservoir supply	Miscellaneous	2	0.7%	count = 31
TEM,FLO	Temporary, flood control	Miscellaneous	1	0.4%	11.3%
MON,MIS (or MIS,MON)	Miscellaneous, monitoring	Monitoring	69	25.2%	
MON	Monitoring	Monitoring	11	4.0%	count = 81
MON,DEW,RES,MIS	Monitoring, dewatering, reservoir, miscellaneous	Monitoring	1	0.4%	29.6%
STO	Stock (watering)	Stock (& related uses)	55	20.1%	
STO,IRR,DOM	Stock, irrigation, domestic	Stock (& related uses)	9	3.3%	
STO,WIL (or WIL,STO)	Stock, wildlife	Stock (& related uses)	4	1.5%	
RES,STO,MIS	Reservoir, stock miscellaneous	Stock (& related uses)	1	0.4%	
STO,DOM	Stock, domestic	Stock (& related uses)	1	0.4%	
STO,IRR	Stock, irrigation	Stock (& related uses)	1	0.4%	
STO,MIS	Stock, miscellaneous	Stock (& related uses)	1	0.4%	count = 73
WIL,STO,MIS	Wildlife, stock, miscellaneous	Stock (& related uses)	1	0.4%	26.6%
Total:			274		

Appendix D

Attachment D-1

Attachment D-1

Water Rights Search Documentation

This appendix documents the results of a search of ground and surface water rights within a 5-km distance of the Gas Hills site. Records were obtained from the Wyoming State Engineer's Office (January 1999); the transmittal was caveated as follows:

"Lands described in these printouts represent the water rights of record in our office as filed on the computer (the computer entries have not been proofed for accuracy). The office records may or may not reflect the actual situation on the ground."

Source: Wyoming State Engineer's Office, January 1999.

Table D-1 presents the results of this search which was adapted from the above transmittal.

Search Boundary Definition for the Gas Hills Site

Users of ground and surface water within a five kilometer distance of the Gas Hills facility were identified; this area is shown in Figure 2.18. Both upgradient and downgradient wells were conservatively included in this search; however, the most likely areas of exposure correspond to locations/sections downgradient of the Gas Hills facility. Each township (TS), Range (R), and Section included in the Water Rights Search is identified below:

Township	Range	Sections	Comment
TS 33	R 89	All Sections (1-36)	Sections 7-9 and 16-21 (n = 9) represent the most likely down-gradient exposure points. The POE planes defined herein correspond to Sections 9, 16, and 21.
TS 33	R 90	Sections 1, 12, 13, 24, 25, and 36	Only the easternmost sections are included to encompass the entire 5-km distance east of the site. Only Sections 12, 13, and 24 correspond to areas of potential future exposures (i.e., distal downgradient locations).
TS 33	R 88	Sections 5, 8, 17, 20, 29, and 32	Only the westernmost sections are included to encompass the entire 5-km distance east of the site.*
TS 34	R 89	Sections 31-36	Only the southernmost sections are included to encompass the entire 5-km distance east of the site.* This area is upgradient of the Gas Hills facility and therefore is not relevant for assessment of current or potential future exposures.
TS 34	R 90	Section 36	See Note below.*
TS 34	R88	Sections 31	See Note below.*

Note: *Indicates areas that are located either up- or cross-gradient of the Gas Hills facility and are therefore not relevant to the assessment of either current or potential future exposures.

Attachment D-1

Water Rights Search Documentation

ABBREVIATION KEY FOR COMPUTER PRINTOUTS FROM THE WYOMING STATE
ENGINEER'S WATER RIGHTS DATABASE

Abbreviations for Status

A&C	ABANDONED AND CANCELLED
E&C	ELIMINATED AND CANCELLED
ABA	ABANDONED
ADJ	ADJUDICATED
AME	AMENDED (LANDS MOVED TO NEW LOCATION NO LONGER UNDER THIS PERMIT)
CAN	CANCELLED
DSC	DESCRIPTION
ELI	ELIMINATED
EXP	EXPIRED
GST	GOOD STANDING PENDING RECEIPT OF LEGALLY REQUIRED NOTICES
OTH	OTHER
PU	POINT OF USE FOR A WELL (also referred to as PUW)
REJ	REJECTED BY THE STATE ENGINEER
REC	LANDS RECEIVED FROM ANOTHER PERMIT
REM	REMAINING
TEM	TEMPORARY
TRA	TRANSFERRED TO ANOTHER PERMIT
UNA	UNADJUDICATED

Attachment D-1

Water Rights Search Documentation

WATER USE DESIGNATIONS — DEFINITION OF USE ABBREVIATIONS

<u>Term</u>	<u>Definition</u>
DEW	Dewatering
DOM	Domestic
DSP	Domestic supply
FIS	Fish propagation
FLO	Flood control
IND	Industrial
IRR	Irrigation
MAN	Manufacturing
MIN	Mining
MIS	Miscellaneous
MON	Monitoring
MUN	Municipal
POW	Power development
REC	Recreation
RES	Reservoir supply
STO	Stock
TEM	Temporary use (e.g., for road construction or oil drilling)
UTI	Public utility
WET	Wetlands
WIL	Wildlife

Attachment D-1

Water Rights Search Documentation

RECORD SUFFIXES ARE DENOTED AS FOLLOWS:

"A" INDICATES ADJUDICATED OR FINALIZED WATER RIGHTS AND UNLESS THE RIGHT IS A TERRITORIAL APPROPRIATION, THERE WILL BE A MATCH IN THE REFERENCE COLUMN FROM ONE OF THE FOLLOWING PERMIT TYPES FOR THE UNADJUDICATED PORTION OF THE WATER RIGHT.

"C" PERMITS ARE WELL STATEMENTS OF CLAIM, FILED FROM 1947 TO 1957 FOR WELLS COMPLETED PRIOR TO APRIL 1, 1947.

"G" PERMITS ARE WELL REGISTRATIONS, FILED FOR WELLS COMPLETED AFTER APRIL 1, 1947.

"P" PERMITS ARE FOR STOCK AND DOMESTIC USE WELLS COMPLETED PRIOR TO MAY 24, 1969 AND REGISTERED WITH THE STATE ENGINEER'S OFFICE PRIOR TO DECEMBER 31, 1972.

"W" PERMITS ARE FOR WELLS WITH A PRIORITY DATE FOR THE DATE OF FILING WITH THE STATE ENGINEER.

"D" SIGNIFIES A DITCH OR PIPELINE PERMIT. "E" SIGNIFIES AN ENLARGEMENT OF A DITCH OR PIPELINE PERMIT.

"S" SIGNIFIES A STOCK RESERVOIR PERMIT. "R" SIGNIFIES A RESERVOIR PERMIT.

Appendix E

Basis for Alternate Concentration Limits Umetco Gas Hills Site Fremont and Natrona Counties, Wyoming

Umetco Minerals Corporation
2754 Compass Drive, Suite 280
Grand Junction, Colorado 81506

May 2001

**Table E-1 Southwestern Flow Regime
Ranking of Constituent Measurements Collected After 1992**

Rank	Well	Arsenic (mg/l)	Sample Date
1	PW7	1.26	22-May-96
2	PW7	1.19	25-Jul-95
3	PW7	1.08	11-Mar-96
4	PW7	0.988	08-Nov-95
5	PW7	0.946	07-Nov-96
6	PW7	0.889	04-Sep-96
7	MWC60	0.88	12-Sep-96
8	PW7	0.866	22-Feb-95
9	PW7	0.862	05-Aug-97
10	PW7	0.85	12-Mar-97
11	PW7	0.812	03-Nov-97
12	PW7	0.81	15-Jun-98
13	GW1	0.743	22-Dec-94
14	PW7	0.686	15-Nov-94
15	GW1	0.636	09-Jun-94
16	GW1	0.543	26-Jun-96
17	PW7	0.539	17-Nov-93
18	GW1	0.538	25-Mar-96
19	PW7	0.513	09-Jun-97
20	GW2	0.509	22-Aug-95
21	GW1	0.499	22-Aug-96
22	GW1	0.495	22-Aug-95
23	PW7	0.47	15-Feb-00
24	PW7	0.455	02-Mar-99
25	PW7	0.45	22-Aug-94
26	EPW3	0.45	28-Feb-00
27	PW7	0.44	16-May-95
28	PW7	0.44	10-Mar-98
29	PW7	0.43	24-May-94
30	GW1	0.425	28-Jun-95
31	GW1	0.424	07-Dec-95
32	GW1	0.422	18-Nov-96
33	GW1	0.419	20-Mar-95
34	PW7	0.41	07-Mar-94
35	GW2	0.376	25-Mar-96
36	GW2	0.367	09-Jun-94
37	GW2	0.366	18-Nov-96
38	GW1	0.347	14-Dec-93
39	PW7	0.338	22-Sep-98
40	GW1	0.336	25-Feb-97
41	GW2	0.326	25-Feb-97
42	PW7	0.312	08-Dec-98
43	GW1	0.312	11-Jun-97
44	GW1	0.29	22-Mar-94
45	GW2	0.282	28-Jun-93
46	GW1	0.27	14-Aug-97
47	GW2	0.263	18-Aug-99
48	GW1	0.25	26-Jan-00
49	GW2	0.249	10-Nov-98
50	GW2	0.234	07-Dec-95

Highlighted wells and measurements were used as basis for development of ACLs

**Table E-1 Southwestern Flow Regime
Ranking of Constituent Measurements Collected After 1992**

Rank	Well	Beryllium (mg/l)	Sample Date
1	GW3	1.61	09-Jun-94
2	GW3	1.54	23-May-95
3	GW3	1.5	22-Mar-94
4	GW3	1.5	26-Jul-95
5	MWC61	1.5	18-Nov-93
6	MW24	1.46	07-May-96
7	GW3	1.39	22-Dec-94
8	GW3	1.39	19-Jun-96
9	GW3	1.35	05-Sep-96
10	GW3	1.22	16-Sep-98
11	GW3	1.21	07-Dec-95
12	MWC61	1.21	07-May-96
13	GW3	1.19	14-Mar-95
14	GW3D	1.15	26-Jan-93
15	GW3	1.11	21-Mar-96
16	GW3	1.11	09-Feb-99
17	GW3	1.1	09-Jun-98
18	GW3	1.1	02-Feb-00
19	GW3D	1.08	28-Jun-93
20	MWC61	1.04	13-Nov-96
21	GW3	1.03	08-May-97
22	GW3	1.02	20-Nov-96
23	GW3	1	19-Aug-99
24	GW3	0.98	23-Nov-98
25	MWC61	0.96	12-Sep-96
26	MWC61	0.94	18-Feb-97
27	MWC61	0.91	12-Feb-96
28	MWC61	0.89	22-Apr-97
29	MWC61	0.87	24-Feb-94
30	MWC61	0.86	14-Jun-93
31	MWC61	0.83	14-Jul-97
32	MWC61	0.73	19-Nov-97
33	GW3	0.72	29-Oct-97
34	GW3	0.7	24-Feb-98
35	MWC61	0.7	16-Aug-94
36	MWC61	0.7	09-May-95
37	MWC61	0.69	09-Feb-98
38	MWC61	0.68	17-Jul-95
39	MWC61	0.65	06-Nov-95
40	MWC61	0.64	23-Feb-95
41	MWC61	0.63	01-Jun-98
42	MWC61	0.55	09-Nov-94
43	MW79	0.54	23-Nov-97
44	MW79	0.54	02-Jun-98
45	MW79	0.5	19-Aug-97
46	MW79	0.47	03-Mar-98
47	MW8	0.47	07-Jul-98
48	MW78	0.46	26-Aug-97
49	MW78	0.45	20-Nov-97
50	GW3	0.44	20-Aug-97

Highlighted wells and measurements were used as basis for development of ACLs

**Table E-1 Southwestern Flow Regime
Ranking of Constituent Measurements Collected After 1992**

Rank	Well	Gross Alpha (pCi/l)	Sample Date
1	GW7	17000	31-Aug-98
2	GW7	14800	28-Oct-97
3	GW7	14800	17-Feb-99
4	GW7	14700	24-Feb-98
5	GW7	14200	27-Oct-98
6	MW7	13800	26-Aug-98
7	GW7	13500	09-Jun-98
8	GW7	12300	02-Jun-97
9	MW7	11300	19-May-98
10	GW7	10500	18-Aug-99
11	MW7	9330	19-Nov-96
12	GW7	9100	01-Mar-00
13	MW7	8970	07-Aug-97
14	MW7	8830	19-Feb-97
15	MW7	8560	11-Sep-96
16	MW7	7770	27-Oct-97
17	MW7	7670	03-Feb-99
18	MW8	7620	07-Jul-98
19	MW7	7380	02-Mar-98
20	MW7	6940	30-Nov-98
21	MW7	6930	11-Jun-97
22	GW7	6857	02-Jun-94
23	GW8	6460	10-Jun-98
24	MW7	6360	15-May-96
25	GW7	6220	18-Aug-97
26	GW8	6120	31-Aug-98
27	MW7	5730	19-Mar-96
28	MWC61	5680	19-Nov-97
29	MWC61	5290	07-May-96
30	MW7	5070	12-Dec-95
31	GW8	4980	30-May-97
32	GW8	4420	18-Aug-97
33	GW8	4300	14-Feb-00
34	MW7	4250	26-Jul-95
35	GW8	4015	16-Mar-94
36	GW8	4000	09-Mar-98
37	GW8	3850	30-Oct-97
38	GW8	3690	27-Oct-98
39	GW7	3609	16-Mar-94
40	GW8	3570	18-Aug-99
41	GW8	3560	17-Feb-99
42	GW8	3550	12-Nov-96
43	MW24	3470	07-May-96
44	GW8	3370	05-Mar-97
45	GW7	3160	26-Feb-97
46	MWC61	3150	12-Sep-96
47	MW63	3020	22-Aug-95
48	GW8	2982	02-Jun-94
49	GW8	2955	13-Dec-93
50	GW8	2940	03-Sep-96

Highlighted wells and measurements were used as basis for development of ACLs

**Table E-1 Southwestern Flow Regime
Ranking of Constituent Measurements Collected After 1992**

Rank	Well	Lead-210 (pCi/l)	Sample Date
1	PW1	65	02-Mar-99
2	MWC61	49	12-Sep-96
3	GW7	48.9	02-Jun-94
4	MW7	45	19-Nov-96
5	MW7	44	19-Feb-97
6	GW7	40.3	06-Dec-94
7	GW7	40	28-Oct-97
8	MW7	37	11-Sep-96
9	MW7	35.6	13-Dec-94
10	MWC61	32.9	09-Nov-94
11	MW7	32	07-Aug-97
12	MW7	32	19-Mar-96
13	MW7	31.5	17-May-95
14	GW7	31	18-Aug-97
15	GW8	30.3	02-Jun-94
16	MW7	29	26-Jul-95
17	MW7	28	02-Mar-98
18	GW7	28	24-Feb-98
19	MW7	27	27-Oct-97
20	MW7	27	15-May-96
21	GW8	26.8	06-Dec-94
22	MW7	26	19-May-98
23	MW7	24	12-Dec-95
24	GW7	24	31-Aug-98
25	GW7	24	09-Jun-98
26	MW7	23.1	30-Aug-94
27	MW7	23	11-Jun-97
28	GW7	23	26-Feb-97
29	GW3	22.2	14-Dec-93
30	MW7	22	26-Aug-98
31	GW8	22	18-Aug-97
32	MW7	21	30-Nov-98
33	GW8	21	09-Mar-98
34	GW8	21	05-Mar-97
35	MW7	20.6	23-Mar-94
36	MW7	20	03-Feb-99
37	GW8	20	30-Oct-97
38	GW7	20	01-Mar-00
39	GW7	20	18-Aug-99
40	GW3C	18.7	26-Jan-93
41	GW8	18	10-Jun-98
42	MW7	17.9	07-Mar-95
43	HW2	17.3	05-Dec-94
44	GW3D	17.1	28-Jun-93
45	MW75	17	05-Aug-97
46	MW7	17	14-Aug-97
47	GW8	17	17-Feb-99
48	GW8	17	31-Aug-98
49	GW7	17	02-Jun-97
50	MW78	16	03-Mar-98

Highlighted wells and measurements were used as basis for development of ACLs

**Table E-1 Southwestern Flow Regime
Ranking of Constituent Measurements Collected After 1992**

Rank	Well	Natural Uranium (mg/l)	Sample Date
1	GW7	32.0	09-Jun-98
2	GW7	27.0	28-Oct-97
3	GW7	25.0	18-Aug-97
4	GW7	23.0	27-Oct-98
5	GW7	22.0	24-Feb-98
6	GW7	21.0	31-Aug-98
7	GW7	20.0	17-Feb-99
8	GW7	19.0	01-Mar-00
9	MW8	18.0	07-Jul-98
10	MW7	18.0	02-Mar-98
11	MW7	15.0	27-Oct-97
12	MW7	14.0	03-Feb-99
13	MW7	14.0	19-May-98
14	MW7	14.0	11-Sep-96
15	GW7	14.0	18-Aug-99
16	MW7	13.0	30-Nov-98
17	MW7	13.0	26-Aug-98
18	MW7	13.0	07-Aug-97
19	GW7	13.0	02-Jun-97
20	MW7	12.0	11-Jun-97
21	MW7	12.0	19-Nov-96
22	MW7	11.0	19-Feb-97
23	GW7	9.7	02-Jun-94
24	GW8	8.8	30-May-97
25	MWC61	8.5	07-May-96
26	MW7	8.5	19-Mar-96
27	MW7	8.3	15-May-96
28	GW8	8.2	10-Jun-98
29	GW8	7.5	18-Aug-97
30	PW2	6.9	16-Jun-97
31	GW8	6.8	31-Aug-98
32	GW8	6.8	09-Mar-98
33	GW8	6.2	27-Oct-98
34	GW8	6.2	30-Oct-97
35	MW7	6.1	12-Dec-95
36	PW2	5.9	28-Feb-00
37	LA8	5.9	19-Sep-96
38	GW8	5.8	17-Feb-99
39	GW7	5.8	26-Feb-97
40	GW8	5.7	16-Mar-94
41	MWC61	5.3	12-Sep-96
42	GW8	5.3	05-Mar-97
43	GW8	5.1	12-Nov-96
44	GW7	5.0	16-Mar-94
45	LA8	4.9	21-Nov-97
46	MW63	4.8	12-Dec-95
47	GW8	4.6	14-Feb-00
48	GW8	4.6	18-Aug-99
49	GW5	4.6	18-Feb-99
50	LA8	4.4	13-Dec-96

Highlighted wells and measurements were used as basis for development of ACLs

**Table E-1 Southwestern Flow Regime
Ranking of Constituent Measurements Collected After 1992**

Rank	Well	Nickel (mg/l)	Sample Date
1	MWC61	11.55	18-Nov-93
2	MW24	9.3	07-May-96
3	GW3	8.3	09-Jun-94
4	GW3	8.1	16-Sep-98
5	GW3	8.1	05-Sep-96
6	GW3	8.1	19-Jun-96
7	GW3	7.3	26-Jul-95
8	GW3	7.25	19-Aug-99
9	MWC61	6.98	14-Jun-93
10	GW3	6.86	09-Jun-98
11	GW3	6.84	09-Feb-99
12	MWC61	6.81	24-Feb-94
13	GW3	6.81	20-Nov-96
14	MWC61	6.73	13-Nov-96
15	GW3	6.57	23-Nov-98
16	MWC61	6.5	12-Sep-96
17	GW3	6.48	22-Dec-94
18	GW3	6.48	14-Dec-93
19	GW3	6.19	08-May-97
20	GW3	6.1	22-Mar-94
21	GW3	6.01	23-May-95
22	MWC61	5.89	22-Apr-97
23	GW3	5.86	21-Mar-96
24	GW3	5.81	07-Dec-95
25	MWC61	5.66	07-May-96
26	MW8	5.64	07-Jul-98
27	MWC61	5.61	18-Feb-97
28	GW3	5.5	02-Feb-00
29	MWC61	5.43	14-Jul-97
30	GW3D	5.39	26-Jan-93
31	MWC61	5.28	12-Feb-96
32	GW3D	5.19	28-Jun-93
33	GW3	4.94	29-Oct-97
34	GW3	4.85	14-Mar-95
35	GW3	4.81	24-Feb-98
36	MWC61	4.78	09-May-95
37	MWC61	4.59	16-Aug-94
38	MWC61	4.51	19-Nov-97
39	MWC61	4.42	17-Jul-95
40	MWC61	4.07	09-Nov-94
41	MWC61	3.81	09-Feb-98
42	MWC61	3.81	23-Feb-95
43	PW1	3.8	01-Mar-00
44	MWC61	3.74	06-Nov-95
45	MWC61	3.73	01-Jun-98
46	PW1	3.62	27-Aug-99
47	MW79	3.47	23-Nov-97
48	PW1	3.34	02-Mar-99
49	MWC61	3.29	19-May-94
50	MW79	3.26	02-Jun-98

Highlighted wells and measurements were used as basis for development of ACLs

**Table E-1 Southwestern Flow Regime
Ranking of Constituent Measurements Collected After 1992**

Rank	Well	Radium-226+228 (pCi/l)	Sample Date
1	MWC61	407.5	18-Nov-93
2	MW24	398	07-May-96
3	MW7	362.3	11-Jun-97
4	MW7	332	26-Aug-98
5	MW7	326.3	03-Feb-99
6	MWC61	323.3	24-Feb-94
7	MW7	302.7	30-Nov-98
8	MWC61	290.3	14-Jun-93
9	GW7	279.9	18-Aug-97
10	MW7	276.1	19-May-98
11	GW7	270	24-Feb-98
12	MWC61	269.3	09-Nov-94
13	GW7	255	28-Oct-97
14	MWC61	250.6	19-May-94
15	GW3	246.3	22-Mar-94
16	MW7	245.6	11-Sep-96
17	GW7	245	01-Mar-00
18	MWC61	243	23-Feb-95
19	GW7	242	09-Jun-98
20	MWC61	234.2	16-Aug-94
21	MW32	233	30-Mar-96
22	MW7	228.7	07-Aug-97
23	GW7	228.3	31-Aug-98
24	GW3	226.2	14-Mar-95
25	GW3	215.7	23-May-95
26	MWC61	206.2	09-May-95
27	PW4	204	19-Aug-97
28	GW7	190.1	16-Mar-94
29	GW3	186.4	14-Dec-93
30	GW7	183.6	27-Oct-98
31	GW7	178.5	17-Feb-99
32	MW7	176.9	19-Nov-96
33	MW7	176.6	15-May-96
34	GW7	169.4	02-Jun-94
35	GW3	163	19-Jun-96
36	GW3	162	05-Sep-96
37	GW3	161	09-Jun-98
38	MWC61	161	07-May-96
39	GW3	157	26-Jul-95
40	MWC61	156	13-Nov-96
41	GW3	155	16-Sep-98
42	GW7	155	26-Feb-97
43	MWC61	154	18-Feb-97
44	MW7	153.9	19-Mar-96
45	GW7	153	18-Aug-99
46	GW3	152.9	22-Dec-94
47	GW3	151	07-Dec-95
48	MWC61	148	19-Nov-97
49	MW80	146	23-Nov-97
50	GW3	145	09-Feb-99

Highlighted wells and measurements were used as basis for development of ACLs

**Table E-1 Southwestern Flow Regime
Ranking of Constituent Measurements Collected After 1992**

Rank	Well	Selenium (mg/l)	Sample Date
1	GW5	0.62	26-Nov-96
2	GW5	0.446	03-Jun-97
3	GW5	0.438	19-Aug-97
4	GW5	0.411	24-Nov-97
5	RW2	0.407	27-Jun-95
6	GW5	0.404	10-Mar-97
7	RW2	0.37	06-Mar-00
8	RW2	0.353	30-Jul-97
9	GW5	0.346	25-Mar-96
10	RW2	0.34	27-Jun-96
11	RW2	0.33	25-Feb-99
12	RW2	0.31	17-Nov-98
13	GW5	0.29	02-Mar-00
14	GW5	0.289	18-Feb-98
15	GW5	0.288	23-Nov-98
16	MW8	0.282	07-Jul-98
17	GW5	0.275	18-Feb-99
18	RW2	0.26	22-Jun-97
19	RW2	0.245	22-Sep-98
20	RW2	0.23	27-Mar-96
21	RW2	0.23	05-Dec-95
22	RW2	0.228	12-Aug-99
23	RW2	0.215	26-May-98
24	RW2	0.198	09-Dec-93
25	RW2	0.191	16-Aug-95
26	GW5	0.177	09-Jun-98
27	GW5	0.177	18-Jun-96
28	GW5	0.169	10-Sep-96
29	GW5	0.147	24-Aug-98
30	RW2	0.109	21-Mar-94
31	RW2	0.105	07-Jun-94
32	RW2	0.097	18-May-93
33	RW2	0.096	07-Sep-94
34	GW5	0.077	20-Aug-99
35	PW2	0.067	16-Jun-97
36	PW2	0.065	28-Feb-00
37	RW2	0.064	27-Dec-94
38	MW72	0.058	14-Aug-97
39	RW2	0.055	15-Mar-95
40	GW5	0.041	20-Mar-95
41	MWC61	0.032	07-May-96
42	MWI53	0.029	23-Jun-93
43	EPW2	0.029	23-Jun-93
44	PW7	0.024	16-May-95
45	MW72	0.022	11-Nov-98
46	MW72	0.021	11-Jan-99
47	MW72	0.021	20-Aug-98
48	MW72	0.02	29-Feb-00
49	PW3	0.018	29-Oct-97
50	PW2	0.018	23-Oct-97

Highlighted wells and measurements were used as basis for development of ACLs

**Table E-1 Southwestern Flow Regime
Ranking of Constituent Measurements Collected After 1992**

Rank	Well	Thorium-230 (pCi/l)	Sample Date
1	MW24	170	07-May-96
2	MW8	64	07-Jul-98
3	GW3	51.7	22-Mar-94
4	GW7	44.8	31-Aug-98
5	MW7	39	11-Sep-96
6	EPW2	38.5	15-Mar-94
7	GW3	30.1	14-Mar-95
8	MWC61	28	12-Sep-96
9	EPW3	24	29-Jul-97
10	GW3	23	05-Sep-96
11	EPW1	23	16-Feb-00
12	EPW3	20.4	24-Aug-98
13	MWC61	18	07-May-96
14	GW7	18	28-Oct-97
15	MW7	17	15-May-96
16	HW2	17	14-Jun-96
17	GW8	17	12-Nov-96
18	MW7	14	19-Nov-96
19	MW7	13	02-Mar-98
20	GW7	13	24-Feb-98
21	MW7	12	19-Mar-96
22	MW7	12	12-Dec-95
23	GW7	11	09-Jun-98
24	GW3	11	21-Mar-96
25	EPW3	11	03-Sep-96
26	EPW2	11	05-Dec-94
27	MW7	10.1	19-May-98
28	HW2	9.7	08-Dec-93
29	GW7	9.6	22-Aug-96
30	GW3	8.8	23-Nov-98
31	EPW2	8.6	07-Jun-94
32	GW8	8.4	03-Sep-96
33	EPW3	8.3	12-Mar-96
34	LA8	8.2	06-Mar-00
35	GW3	8	09-Feb-99
36	GW3	7.8	16-Sep-98
37	GW5	7.6	10-Sep-96
38	MWC61	7.4	12-Feb-96
39	MW10	7	11-Aug-97
40	LA8	6.9	02-Sep-97
41	GW3	6.9	14-Dec-93
42	MWC61	6.4	13-Nov-96
43	GW7	6.3	02-Jun-97
44	MW63	6.1	12-Dec-95
45	GW7	6.1	26-Feb-97
46	GW8	6	15-Jun-93
47	MW7	5.9	11-Jun-97
48	GW8	5.9	31-Aug-98
49	GW5	5.4	26-Nov-96
50	GW3	5.4	19-Jun-96

Highlighted wells and measurements were used as basis for development of Table E-3

**Table E-2 Western Flow Regime
Ranking of Constituent Measurements Collected After 1992**

Rank	Well	Arsenic (mg/l)	Sample Date
1	MWC56	1.63	12-Feb-96
2	MWC56	1.36	14-May-96
3	MWC56	1.32	10-May-94
4	MWC56	1.162	09-May-95
5	MWC56	1.03	06-Nov-95
6	MWC56	0.939	09-Nov-94
7	MWC56	0.891	18-Jul-95
8	MWC56	0.822	13-Feb-95
9	MWC56	0.796	07-Dec-93
10	MWC56	0.77	03-Jun-93
11	MWC56	0.68	17-Aug-94
12	MWC46	0.59	14-Jan-93
13	MWC56	0.459	22-Feb-94
14	MWI43	0.204	15-Jul-97
15	MWI43	0.189	30-Oct-97
16	MW25	0.18	18-Jan-00
17	MWI43	0.179	27-Jan-98
18	MW25	0.173	27-Jul-98
19	MW25	0.166	19-Aug-96
20	MW25	0.166	29-Mar-96
21	MW25	0.161	15-Oct-97
22	MWC58	0.16	10-May-94
23	MW25	0.158	29-Jul-99
24	MW25	0.158	04-May-98
25	MW25	0.157	26-Aug-96
26	MW25	0.154	29-Apr-97
27	MWI43	0.152	20-Apr-98
28	MWI43	0.152	22-Apr-97
29	MW25	0.152	28-Oct-96
30	MW25	0.149	08-Aug-95
31	MW25	0.135	06-Jun-95
32	MW25	0.13	19-Jan-98
33	MW25	0.128	21-Jan-99
34	MW25	0.12	10-Jun-96
35	MW25	0.12	21-Feb-95
36	MW25	0.115	20-Nov-95
37	MW25	0.113	30-Nov-94
38	MW25	0.107	24-Jul-97
39	MW76	0.099	06-Jan-99
40	MW25	0.097	09-Jun-93
41	MWI43	0.096	09-Sep-96
42	MWI43	0.095	25-Feb-97
43	MW76	0.092	14-Oct-98
44	MW25	0.09	01-Jun-94
45	MW76	0.089	10-Aug-98
46	MW76	0.089	05-May-98
47	MW25	0.088	23-Nov-93
48	MW76	0.083	04-Nov-97
49	MW76	0.082	04-Feb-98
50	MW76	0.078	04-Aug-97

Highlighted wells and measurements were used as basis for development of ACLs

**Table E-2 Western Flow Regime
Ranking of Constituent Measurements Collected After 1992**

Rank	Well	Beryllium (mg/l)	Sample Date
1	MWI64	1.34	26-Mar-96
2	MWI64	1.26	07-Jun-93
3	MWI43	1.16	22-Apr-97
4	MWI64	1.13	15-Jul-97
5	MWI43	1.09	30-Oct-97
6	MWI43	1.04	20-Apr-98
7	MWI43	1.02	27-Jan-98
8	MWI64	1	20-Apr-98
9	MWI64	0.93	04-Dec-95
10	MWI43	0.87	25-Feb-97
11	MWI43	0.83	26-Nov-96
12	MWI64	0.82	08-Mar-99
13	MWI64	0.79	22-Apr-97
14	MWI43	0.75	09-Sep-96
15	MWI64	0.73	10-Aug-98
16	MWI64	0.72	08-Mar-00
17	MWI64	0.57	20-Oct-98
18	MWI43	0.56	15-Jul-97
19	MW67	0.36	09-Jul-96
20	MWC48	0.35	17-Jul-95
21	MW67	0.34	13-Dec-95
22	MW67	0.33	29-Jun-93
23	MW67	0.32	22-Mar-96
24	MWC48	0.31	28-Nov-95
25	MWC45	0.29	13-Dec-95
26	MWC48	0.28	10-May-95
27	MWC48	0.26	18-Mar-96
28	MW67	0.26	24-Jan-94
29	MWC45	0.25	10-May-95
30	MWI64	0.24	12-Aug-99
31	MWI64	0.24	23-Aug-95
32	MW65	0.21	07-Jun-93
33	MWC55	0.2	26-Jun-96
34	MWC55	0.19	10-May-94
35	MW65	0.19	13-Jun-94
36	MWC57	0.17	09-May-95
37	MWC55	0.17	09-Nov-94
38	MWC56	0.16	12-Feb-96
39	MWC56	0.16	18-Jul-95
40	MWC48	0.16	25-Jun-96
41	MWC55	0.15	09-May-95
42	MWC55	0.15	22-Feb-94
43	MWC55	0.14	12-Feb-96
44	MWC59	0.13	01-Jun-93
45	MWC56	0.13	06-Nov-95
46	MWC55	0.13	13-Nov-95
47	MWC55	0.13	13-Feb-95
48	MWC45	0.13	19-Jul-95
49	MWC59	0.12	02-Dec-93
50	MWC56	0.12	14-May-96

Highlighted wells and measurements were used as basis for development of ACLs

**Table E-2 Western Flow Regime
Ranking of Constituent Measurements Collected After 1992**

Rank	Well	Gross Alpha (pCi/l)	Sample Date
1	MW65	15526	13-Jun-94
2	MW65	13874	07-Jun-93
3	MWI64	6740	26-Mar-96
4	MW67	6360	13-Dec-95
5	MW67	5510	24-Jan-94
6	MW67	5260	22-Mar-96
7	MWI64	5200	04-Dec-95
8	MWI64	5200	08-Mar-00
9	MWI64	5110	20-Oct-98
10	MWC42	5090	26-Feb-96
11	MWI64	4720	20-Apr-98
12	MW67	4650	09-Jul-96
13	MW67	4545	29-Jun-93
14	MWI64	4180	08-Mar-99
15	MWC55	3940	13-Nov-95
16	MW70A	3480	02-Nov-98
17	MWC55	3390	12-Feb-96
18	MWI64	3260	10-Aug-98
19	MWC55	3250	26-Jun-96
20	MWC55	3115	10-May-94
21	MW70A	2790	26-Jan-99
22	MWC55	2717	22-Feb-94
23	MWI64	2320	22-Apr-97
24	MW70A	2310	19-Jan-98
25	MWI64	2120	15-Jul-97
26	MWC55	2110	24-Jul-95
27	MWC45	2060	13-Dec-95
28	MW70A	1980	27-Aug-97
29	MW70A	1790	05-Dec-97
30	MW70A	1760	06-May-98
31	MWC55	1661	02-Dec-93
32	MWC55	1602	03-May-93
33	MW70A	1600	24-Jan-00
34	MW70A	1580	11-Aug-98
35	MWC42	1460	24-May-96
36	MW6D	1420	20-Jul-99
37	MW20	1300	19-Jan-00
38	MW1	1120	14-Nov-95
39	MW1	1000	24-Jul-95
40	MWC56	973	22-Feb-94
41	MW1	963	21-Feb-96
42	MWI64	942	23-Aug-95
43	MW1	922	31-Jul-97
44	MW26	874	25-Aug-99
45	MW1	824	27-Oct-98
46	MW1	816	15-May-96
47	MWC59	814	28-Nov-95
48	MW1	806	09-Sep-96
49	MW1	733	04-May-98
50	MW26	711	07-Jun-95

Highlighted wells and measurements were used as basis for development of ACLs

Table E-2 Western Flow Regime
Ranking of Constituent Measurements Collected After 1992

Rank	Well	Lead-210 (pCi/l)	Sample Date
1	MWC55	110	09-Nov-94
2	MWC56	89.7	07-Dec-93
3	MWI64	45	20-Oct-98
4	MW67	35	13-Dec-95
5	MW65	27.9	07-Jun-93
6	MWC55	25.7	02-Dec-93
7	DW3	23.2	01-Mar-94
8	MW65	20.8	13-Jun-94
9	MWC55	18.2	09-May-95
10	MW30	17.7	08-Dec-93
11	MWC55	17.2	17-Aug-94
12	MWI64	17	23-Aug-95
13	MW2	16	29-Jul-99
14	MW67	15	22-Mar-96
15	MW67	14	09-Jul-96
16	MWC55	14	26-Jun-96
17	MW2	14	16-Nov-95
18	MW2	13	28-Oct-96
19	MWC42	13	28-Nov-95
20	MW70A	12	24-Jan-00
21	MW2	12	18-Jan-99
22	MW2	11	13-Jan-00
23	MW70A	11	02-Nov-98
24	MW2	11	28-Mar-96
25	MW26	10.4	23-Aug-94
26	MW70A	10	19-Jan-98
27	MWI64	10	26-Mar-96
28	MWC55	10	13-Nov-95
29	MW2	10	22-Nov-93
30	MWC55	9.6	03-May-93
31	MW4	9.3	24-Jul-95
32	MW2	9.2	08-Mar-95
33	MW67	9.1	24-Jan-94
34	MW70A	9	27-Aug-97
35	MW2	8.6	25-May-94
36	MWC55	8.5	13-Feb-95
37	MW1	8.3	29-Aug-94
38	MW1	8.2	12-Jun-97
39	MW2	8.2	16-Nov-94
40	MW2	8	15-Oct-97
41	MWC59	8	22-Feb-94
42	MW2	7.7	10-Feb-97
43	MWC42	7.6	10-Sep-96
44	MWC59	7.6	17-Aug-94
45	MW25	7.5	04-Feb-97
46	MW26	7.4	04-Feb-97
47	MW26	7.3	19-Jan-98
48	MW2	7.3	13-Jan-98
49	MW1	7.2	07-Feb-00
50	MW23	7.2	23-Aug-94

Highlighted wells and measurements were used as basis for development of ACLs

**Table E-2 Western Flow Regime
Ranking of Constituent Measurements Collected After 1992**

Rank	Well	Natural Uranium (mg/l)	Sample Date
1	MW65	21.80	13-Jun-94
2	MW65	20.24	07-Jun-93
3	MW67	11.23	13-Dec-95
4	MW67	9.85	09-Jul-96
5	MWI64	9.85	26-Mar-96
6	MW67	9.46	22-Mar-96
7	MW67	7.90	24-Jan-94
8	MWI64	7.59	08-Mar-99
9	MWC55	7.19	12-Feb-96
10	MWC55	6.91	13-Nov-95
11	MW67	6.56	29-Jun-93
12	MWC55	6.37	09-May-95
13	MWI64	6.11	20-Apr-98
14	MWC55	5.87	17-Aug-94
15	MWC55	5.61	09-Nov-94
16	MWI64	5.42	08-Mar-00
17	MWI64	5.32	20-Oct-98
18	MWC55	4.97	13-Feb-95
19	MWC55	4.73	26-Jun-96
20	MWC55	4.44	10-May-94
21	MW70A	4.14	05-Dec-97
22	MW70A	4.04	26-Jan-99
23	MW70A	4.04	19-Jan-98
24	MW70A	4.04	27-Aug-97
25	MWC55	3.96	22-Feb-94
26	MW70A	3.94	11-Aug-98
27	MW70A	3.94	06-May-98
28	MWI64	3.74	10-Aug-98
29	MWI64	3.59	04-Dec-95
30	MWI64	3.25	22-Apr-97
31	MWC55	2.63	24-Jul-95
32	MW70A	2.56	24-Jan-00
33	MWI64	2.36	15-Jul-97
34	MWC55	2.31	03-May-93
35	MWC55	2.27	02-Dec-93
36	MW1	2.02	14-Nov-95
37	MW1	1.67	21-Feb-96
38	MWC45	1.67	13-Dec-95
39	MWI64	1.58	12-Aug-99
40	MW1	1.38	15-May-96
41	MW1	1.28	23-Oct-97
42	MW1	1.28	12-Jun-97
43	MWC42	1.28	10-Sep-96
44	MW1	1.20	16-May-95
45	MW20	1.18	19-Jan-00
46	MW1	1.18	31-Jul-97
47	MW1	1.18	18-Feb-97
48	MW1	1.18	09-Sep-96
49	MW1	1.08	07-Feb-00
50	MW1	1.08	18-Nov-96

Highlighted wells and measurements were used as basis for development of ACLs

**Table E-2 Western Flow Regime
Ranking of Constituent Measurements Collected After 1992**

Rank	Well	Nickel (mg/l)	Sample Date
1	MWC42	11.7	28-Nov-95
2	MWC42	11.6	24-May-96
3	MWC42	10.2	10-Sep-96
4	MW67	8.97	29-Jun-93
5	MWC42	8.93	26-Feb-96
6	MW67	8.9	09-Jul-96
7	MWI64	8.88	26-Mar-96
8	MW67	8.87	24-Jan-94
9	MWI64	8.72	07-Jun-93
10	MW67	8.55	13-Dec-95
11	MW67	7.94	22-Mar-96
12	MWI43	7.77	25-Feb-97
13	MWI43	7.71	26-Nov-96
14	MWI43	7.63	09-Sep-96
15	MWI64	6.74	04-Dec-95
16	MWI43	6.59	22-Apr-97
17	MWI64	6.57	15-Jul-97
18	MWC42	6.53	22-Feb-94
19	MWI64	6.52	20-Apr-98
20	MWI43	6.4	30-Oct-97
21	MWI43	6.31	27-Jan-98
22	MWI43	6.29	20-Apr-98
23	MWI64	5.91	10-Aug-98
24	MWI64	5.68	08-Mar-99
25	MWC55	5.68	10-May-94
26	MWC55	5.61	02-Dec-93
27	MWC55	5.61	03-May-93
28	MWC55	5.59	09-Nov-94
29	MWI64	5.25	22-Apr-97
30	MWC55	4.99	13-Feb-95
31	MWC45	4.86	10-May-95
32	MWI43	4.8	15-Jul-97
33	MWI64	4.7	08-Mar-00
34	MWC45	4.64	19-Jul-95
35	MWC55	4.6	26-Jun-96
36	MWC45	4.6	13-Dec-95
37	MWC56	4.23	09-May-95
38	MWC55	4.23	09-May-95
39	MWC45	4.12	09-Nov-94
40	MW65	4.11	07-Jun-93
41	MWI64	4.05	20-Oct-98
42	MWC55	4.05	13-Nov-95
43	MWC55	3.88	12-Feb-96
44	MWC55	3.7	24-Jul-95
45	MWC55	3.46	17-Aug-94
46	MWI64	3.32	12-Aug-99
47	MWC59	3.18	17-Aug-94
48	MWI64	2.92	23-Aug-95
49	MW65	2.86	13-Jun-94
50	MWC45	2.57	16-Feb-95

Highlighted wells and measurements were used as basis for development of ACLs

**Table E-2 Western Flow Regime
Ranking of Constituent Measurements Collected After 1992**

Rank	Well	Radium-226+228 (pCi/l)	Sample Date
1	MW65	710.2	13-Jun-94
2	MWC45	234.1	09-Nov-94
3	MWC59	222	28-Nov-95
4	MWI64	203	08-Mar-99
5	MWI43	201	15-Jul-97
6	MWI64	199	20-Apr-98
7	MWC59	193	15-May-96
8	MWC59	192	14-Feb-96
9	MWI43	178.8	20-Apr-98
10	MWI64	178	26-Mar-96
11	MW65	176.7	07-Jun-93
12	MWC45	166	10-May-95
13	MWI43	165	27-Jan-98
14	MWI43	162	30-Oct-97
15	MWI64	154	15-Jul-97
16	MWC59	150.8	10-May-94
17	MWI43	149	22-Apr-97
18	MW26	138	09-Aug-95
19	MW67	137	24-Jan-94
20	DW3	136.4	15-Dec-94
21	MWI64	134.3	10-Aug-98
22	MWC55	131	13-Feb-95
23	MWC45	128	13-Dec-95
24	MWI64	127	04-Dec-95
25	DW3	126	14-Mar-95
26	MWI64	125.2	20-Oct-98
27	MWI64	125	22-Apr-97
28	DW3	124	24-Jun-98
29	DW3	120.4	12-Jun-95
30	DW3	119.7	24-Feb-99
31	MW70A	119.7	06-May-98
32	MW70A	119.5	11-Aug-98
33	MWC59	118.9	21-Feb-95
34	MW26	118.7	10-Jun-96
35	MW26	117.3	07-Jun-95
36	MW26	116.9	08-Mar-95
37	DW3	116	04-Dec-97
38	MW26	115.9	28-Mar-96
39	MW70A	115.7	02-Nov-98
40	DW3	115	14-Aug-95
41	MW70A	114	19-Jan-98
42	MWI43	114	25-Feb-97
43	MW26	113.2	05-May-97
44	MWC59	112.3	09-Nov-94
45	MW26	111.7	16-Nov-95
46	MW26	111.5	04-Feb-97
47	MW25	111.1	04-Feb-97
48	DW3	111	17-Jul-97
49	MW70A	110.8	26-Jan-99
50	DW3	110	25-Jan-00

Highlighted wells and measurements were used as basis for development of ACLs

Table E-2 Western Flow Regime
Ranking of Constituent Measurements Collected After 1992

Rank	Well	Selenium (mg/l)	Sample Date
1	MW70A	0.422	27-Aug-97
2	MW70A	0.369	05-Dec-97
3	MW70A	0.359	06-May-98
4	MW70A	0.257	19-Jan-98
5	MW70A	0.25	11-Aug-98
6	MW70A	0.222	02-Nov-98
7	MW70A	0.22	26-Jan-99
8	MW67	0.178	22-Mar-96
9	MW67	0.176	29-Jun-93
10	MW70A	0.16	24-Jan-00
11	MW17	0.147	22-Jun-93
12	MW67	0.138	13-Dec-95
13	MW67	0.135	09-Jul-96
14	MW17	0.128	23-Aug-94
15	MW17	0.128	22-Nov-93
16	MW17	0.118	09-Aug-95
17	MW17	0.112	07-Jun-95
18	MW67	0.11	24-Jan-94
19	MW17	0.109	16-Nov-95
20	MW17	0.104	28-Jul-99
21	MW1	0.1	09-Sep-96
22	MW1	0.1	24-Jul-95
23	MW1	0.099	04-May-98
24	MW17	0.098	25-May-94
25	MW1	0.097	14-Nov-95
26	MW4	0.097	21-Jun-93
27	MW1	0.095	07-Feb-00
28	MW1	0.095	13-Aug-98
29	MW17	0.095	07-Jun-96
30	MW17	0.094	16-Nov-94
31	MW17	0.093	14-Jan-99
32	MW1	0.091	27-Oct-98
33	MW17	0.091	16-Apr-98
34	MW17	0.09	09-Oct-98
35	MW1	0.089	29-Aug-94
36	MW1	0.087	03-Feb-98
37	MW2	0.084	13-Jan-00
38	MW1	0.083	31-Jul-97
39	MW1	0.083	18-Nov-96
40	MW1	0.082	12-Jun-97
41	MW17	0.082	16-Oct-96
42	MW1	0.081	23-Oct-97
43	MW1	0.08	26-Aug-99
44	MW17	0.08	29-Jan-97
45	MW1	0.08	16-May-95
46	MW1	0.079	25-Jan-99
47	MW17	0.079	20-Aug-96
48	MW17	0.077	13-Jan-98
49	MW17	0.076	16-Jul-97
50	MW1	0.076	18-Feb-97

Highlighted wells and measurements were used as basis for development of ACLs

**Table E-2 Western Flow Regime
Ranking of Constituent Measurements Collected After 1992**

Rank	Well	Thorium-230 (pCi/l)	Sample Date
1	MWC49	135	10-Jun-93
2	MW67	60	13-Dec-95
3	MW67	35	09-Jul-96
4	MW67	33	22-Mar-96
5	MW20	24	19-Jan-00
6	MW67	19.6	24-Jan-94
7	MW18	17	18-Jan-00
8	MW67	17	29-Jun-93
9	MWC55	11	13-Nov-95
10	MW65	10.6	13-Jun-94
11	MWI52	10.2	10-Jun-93
12	MW70A	9.5	27-Aug-97
13	MWI64	8.5	08-Mar-00
14	MWC45	7.7	13-Dec-95
15	MWC55	7.6	17-Aug-94
16	MW1	7.5	06-Jun-94
17	MWC55	7.2	12-Feb-96
18	MW1	7.2	28-Nov-94
19	MW1	7.1	18-Nov-96
20	MW1	7	31-Jul-97
21	MW4	6.8	28-Nov-94
22	MW21A	6.8	09-Jun-93
23	MW77	6.2	19-Jan-00
24	MW26	6.1	08-Mar-94
25	MW1	5.5	07-Feb-00
26	MW20	5.5	13-Nov-95
27	MW81	5.4	19-Jan-00
28	MWC55	5.1	24-Jul-95
29	MWI64	4.9	04-Dec-95
30	MW70A	4.8	06-May-98
31	MW70A	4.7	11-Aug-98
32	DW4	4.7	27-Oct-97
33	MW18	4.6	26-Mar-96
34	MWC57	4.6	09-May-95
35	MWI64	3.8	22-Apr-97
36	MWC42	3.8	10-Sep-96
37	MWI64	3.8	26-Mar-96
38	MW1	3.7	24-Jul-95
39	MW20	3.5	16-Oct-96
40	MW20	3.5	26-Aug-96
41	MWC55	3.5	26-Jun-96
42	MWC45	3.2	19-Jul-95
43	MWI43	3.1	22-Apr-97
44	MW25	3	18-Jan-00
45	MW1	2.9	22-Feb-95
46	MWC55	2.9	13-Feb-95
47	MW1	2.8	14-Nov-95
48	MW1	2.5	09-Sep-96
49	MWI64	2.3	10-Aug-98
50	MWC55	2.3	09-May-95

Highlighted wells and measurements were used as basis for development of ACLs

**Table E-3 Southwestern Flow Regime
Basis for ACLs Parameter Estimates for Constituents**

LOCATION	RESULT	ANALYTE	UNITS	DATE			
PW7	0.18	Arsenic	mg/l	18-May-93	Parameter Estimates for Arsenic	count: 24	
PW7	0.539	Arsenic	mg/l	17-Nov-93			
PW7	0.41	Arsenic	mg/l	07-Mar-94			
PW7	0.43	Arsenic	mg/l	24-May-94			
PW7	0.45	Arsenic	mg/l	22-Aug-94			
PW7	0.686	Arsenic	mg/l	15-Nov-94	UL_{0.95} (X_{0.95})	1.36	Constant = 2.309
PW7	0.866	Arsenic	mg/l	22-Feb-95			
PW7	0.44	Arsenic	mg/l	16-May-95			
PW7	1.19	Arsenic	mg/l	25-Jul-95			
PW7	0.988	Arsenic	mg/l	08-Nov-95			
PW7	1.08	Arsenic	mg/l	11-Mar-96			
PW7	1.26	Arsenic	mg/l	22-May-96			
PW7	0.889	Arsenic	mg/l	04-Sep-96			
PW7	0.946	Arsenic	mg/l	07-Nov-96			
PW7	0.85	Arsenic	mg/l	12-Mar-97			
PW7	0.513	Arsenic	mg/l	09-Jun-97			
PW7	0.862	Arsenic	mg/l	05-Aug-97			
PW7	0.812	Arsenic	mg/l	03-Nov-97			
PW7	0.44	Arsenic	mg/l	10-Mar-98			
PW7	0.81	Arsenic	mg/l	15-Jun-98			
PW7	0.338	Arsenic	mg/l	22-Sep-98			
PW7	0.312	Arsenic	mg/l	08-Dec-98			
PW7	0.455	Arsenic	mg/l	02-Mar-99			
PW7	0.47	Arsenic	mg/l	15-Feb-00			

**Table E-3 Southwestern Flow Regime
Basis for ACLs Parameter Estimates for Constituents**

LOCATION	RESULT	ANALYTE	UNITS	DATE			
GW3	0.01	Beryllium	mg/l	14-Dec-93			
GW3	1.5	Beryllium	mg/l	22-Mar-94	Parameter Estimates for Beryllium		
GW3	1.61	Beryllium	mg/l	09-Jun-94	count:	42	
GW3	1.39	Beryllium	mg/l	22-Dec-94	average:	0.97	
GW3	1.19	Beryllium	mg/l	14-Mar-95	std. dev.	0.35	
GW3	1.54	Beryllium	mg/l	23-May-95	UL_{0.95} (X_{0.95})	1.70	Constant = 2.106
GW3	1.5	Beryllium	mg/l	26-Jul-95			
GW3	1.21	Beryllium	mg/l	07-Dec-95			
GW3	1.11	Beryllium	mg/l	21-Mar-96			
GW3	1.39	Beryllium	mg/l	19-Jun-96			
GW3	1.35	Beryllium	mg/l	05-Sep-96			
GW3	1.02	Beryllium	mg/l	20-Nov-96			
GW3	1.03	Beryllium	mg/l	08-May-97			
GW3	0.44	Beryllium	mg/l	20-Aug-97			
GW3	0.72	Beryllium	mg/l	29-Oct-97			
GW3	0.7	Beryllium	mg/l	24-Feb-98			
GW3	1.1	Beryllium	mg/l	09-Jun-98			
GW3	1.22	Beryllium	mg/l	16-Sep-98			
GW3	0.98	Beryllium	mg/l	23-Nov-98			
GW3	1.11	Beryllium	mg/l	09-Feb-99			
GW3	1	Beryllium	mg/l	19-Aug-99			
GW3	1.1	Beryllium	mg/l	02-Feb-00			
MWC61	0.86	Beryllium	mg/l	14-Jun-93			
MWC61	1.5	Beryllium	mg/l	18-Nov-93			
MWC61	0.87	Beryllium	mg/l	24-Feb-94			
MWC61	0.44	Beryllium	mg/l	19-May-94			
MWC61	0.7	Beryllium	mg/l	16-Aug-94			
MWC61	0.55	Beryllium	mg/l	09-Nov-94			
MWC61	0.64	Beryllium	mg/l	23-Feb-95			
MWC61	0.7	Beryllium	mg/l	09-May-95			
MWC61	0.68	Beryllium	mg/l	17-Jul-95			
MWC61	0.65	Beryllium	mg/l	06-Nov-95			
MWC61	0.91	Beryllium	mg/l	12-Feb-96			
MWC61	1.21	Beryllium	mg/l	07-May-96			
MWC61	0.96	Beryllium	mg/l	12-Sep-96			
MWC61	1.04	Beryllium	mg/l	13-Nov-96			
MWC61	0.94	Beryllium	mg/l	18-Feb-97			
MWC61	0.89	Beryllium	mg/l	22-Apr-97			
MWC61	0.83	Beryllium	mg/l	14-Jul-97			
MWC61	0.73	Beryllium	mg/l	19-Nov-97			
MWC61	0.69	Beryllium	mg/l	09-Feb-98			
MWC61	0.63	Beryllium	mg/l	01-Jun-98			

**Table E-3 Southwestern Flow Regime
Basis for ACLs Parameter Estimates for Constituents**

LOCATION	RESULT	ANALYTE	UNITS	DATE			
GW7	126	Gross Alpha minus Natural Uranium	pCi/l	15-Jun-93	Parameter Estimates for Gross Alpha minus Natural Uranium count: 24 average: (857.7) std. dev. 3,066.6		
GW7	77	Gross Alpha minus Natural Uranium	pCi/l	13-Dec-93			
GW7	208	Gross Alpha minus Natural Uranium	pCi/l	16-Mar-94			
GW7	299	Gross Alpha minus Natural Uranium	pCi/l	02-Jun-94			
GW7	30	Gross Alpha minus Natural Uranium	pCi/l	15-Aug-94			
GW7	-655	Gross Alpha minus Natural Uranium	pCi/l	06-Dec-94	UL_{0.95} (X_{0.95})	6,223.0	Constant = 2.309
GW7	-607	Gross Alpha minus Natural Uranium	pCi/l	27-Jun-95			
GW7	57	Gross Alpha minus Natural Uranium	pCi/l	16-Aug-95			
GW7	-21	Gross Alpha minus Natural Uranium	pCi/l	05-Dec-95			
GW7	-287	Gross Alpha minus Natural Uranium	pCi/l	21-Mar-96			
GW7	-198	Gross Alpha minus Natural Uranium	pCi/l	19-Jun-96			
GW7	-177	Gross Alpha minus Natural Uranium	pCi/l	22-Aug-96			
GW7	443	Gross Alpha minus Natural Uranium	pCi/l	11-Nov-96			
GW7	-767	Gross Alpha minus Natural Uranium	pCi/l	26-Feb-97			
GW7	3499	Gross Alpha minus Natural Uranium	pCi/l	02-Jun-97			
GW7	-10705	Gross Alpha minus Natural Uranium	pCi/l	18-Aug-97			
GW7	-3479	Gross Alpha minus Natural Uranium	pCi/l	28-Oct-97			
GW7	-194	Gross Alpha minus Natural Uranium	pCi/l	24-Feb-98			
GW7	-8164	Gross Alpha minus Natural Uranium	pCi/l	09-Jun-98			
GW7	2783	Gross Alpha minus Natural Uranium	pCi/l	31-Aug-98			
GW7	-1371	Gross Alpha minus Natural Uranium	pCi/l	27-Oct-98			
GW7	1260	Gross Alpha minus Natural Uranium	pCi/l	17-Feb-99			
GW7	1022	Gross Alpha minus Natural Uranium	pCi/l	18-Aug-99			
GW7	-3763	Gross Alpha minus Natural Uranium	pCi/l	01-Mar-00			

**Table E-3 Southwestern Flow Regime
Basis for ACLs Parameter Estimates for Constituents**

LOCATION	RESULT	ANALYTE	UNITS	DATE			
GW7	7.9	Lead-210	pCi/l	15-Jun-93			
GW7	6	Lead-210	pCi/l	13-Dec-93	Parameter Estimates for Lead-210		
GW7	48.9	Lead-210	pCi/l	16-Mar-94	count:	45	
GW7	10.5	Lead-210	pCi/l	02-Jun-94	average:	22.74	
GW7	40.3	Lead-210	pCi/l	15-Aug-94	std. dev.	11.47	
GW7	4.6	Lead-210	pCi/l	06-Dec-94	UL_{0.95} (X_{0.95})	46.7	Constant = 2.092
GW7	5.4	Lead-210	pCi/l	27-Jun-95			
GW7	7.5	Lead-210	pCi/l	16-Aug-95			
GW7	9.6	Lead-210	pCi/l	05-Dec-95			
GW7	7	Lead-210	pCi/l	21-Mar-96			
GW7	7.6	Lead-210	pCi/l	19-Jun-96			
GW7	10	Lead-210	pCi/l	22-Aug-96			
GW7	23	Lead-210	pCi/l	11-Nov-96			
GW7	17	Lead-210	pCi/l	26-Feb-97			
GW7	31	Lead-210	pCi/l	02-Jun-97			
GW7	40	Lead-210	pCi/l	18-Aug-97			
GW7	28	Lead-210	pCi/l	28-Oct-97			
GW7	24	Lead-210	pCi/l	24-Feb-98			
GW7	24	Lead-210	pCi/l	09-Jun-98			
GW7	14	Lead-210	pCi/l	31-Aug-98			
GW7	15	Lead-210	pCi/l	27-Oct-98			
GW7	20	Lead-210	pCi/l	17-Feb-99			
GW7	20	Lead-210	pCi/l	18-Aug-99			
GW7	28	Lead-210	pCi/l	01-Mar-00			
MW7	12.1	Lead-210	pCi/l	23-Mar-94			
MW7	23.1	Lead-210	pCi/l	08-Jun-94			
MW7	35.6	Lead-210	pCi/l	30-Aug-94			
MW7	17.9	Lead-210	pCi/l	13-Dec-94			
MW7	31.5	Lead-210	pCi/l	07-Mar-95			
MW7	29	Lead-210	pCi/l	17-May-95			
MW7	24	Lead-210	pCi/l	26-Jul-95			
MW7	32	Lead-210	pCi/l	12-Dec-95			
MW7	27	Lead-210	pCi/l	19-Mar-96			
MW7	37	Lead-210	pCi/l	15-May-96			
MW7	45	Lead-210	pCi/l	11-Sep-96			
MW7	44	Lead-210	pCi/l	19-Nov-96			
MW7	23	Lead-210	pCi/l	19-Feb-97			
MW7	32	Lead-210	pCi/l	11-Jun-97			
MW7	27	Lead-210	pCi/l	07-Aug-97			
MW7	28	Lead-210	pCi/l	27-Oct-97			
MW7	26	Lead-210	pCi/l	02-Mar-98			
MW7	22	Lead-210	pCi/l	19-May-98			
MW7	21	Lead-210	pCi/l	26-Aug-98			
MW7	20	Lead-210	pCi/l	30-Nov-98			
MW7	17	Lead-210	pCi/l	03-Feb-99			

**Table E-3 Southwestern Flow Regime
Basis for ACLs Parameter Estimates for Constituents**

LOCATION	RESULT	ANALYTE	UNITS	DATE			
GW7	3.51	Natural Uranium	mg/l	15-Jun-93	Parameter Estimates for Uranium count: 24 average: 10.89 std. dev. 10.07 UL_{0.95} (X_{0.95}) 34.1 Constant = 2.309		
GW7	3.80	Natural Uranium	mg/l	13-Dec-93			
GW7	5.02	Natural Uranium	mg/l	16-Mar-94			
GW7	9.69	Natural Uranium	mg/l	02-Jun-94			
GW7	3.24	Natural Uranium	mg/l	15-Aug-94			
GW7	1.02	Natural Uranium	mg/l	06-Dec-94			
GW7	0.97	Natural Uranium	mg/l	27-Jun-95			
GW7	1.17	Natural Uranium	mg/l	16-Aug-95			
GW7	1.47	Natural Uranium	mg/l	05-Dec-95			
GW7	2.3	Natural Uranium	mg/l	21-Mar-96			
GW7	2.7	Natural Uranium	mg/l	19-Jun-96			
GW7	2.3	Natural Uranium	mg/l	22-Aug-96			
GW7	2.3	Natural Uranium	mg/l	11-Nov-96			
GW7	5.8	Natural Uranium	mg/l	26-Feb-97			
GW7	13	Natural Uranium	mg/l	02-Jun-97			
GW7	25	Natural Uranium	mg/l	18-Aug-97			
GW7	27	Natural Uranium	mg/l	28-Oct-97			
GW7	22	Natural Uranium	mg/l	24-Feb-98			
GW7	32	Natural Uranium	mg/l	09-Jun-98			
GW7	21	Natural Uranium	mg/l	31-Aug-98			
GW7	23	Natural Uranium	mg/l	27-Oct-98			
GW7	20	Natural Uranium	mg/l	17-Feb-99			
GW7	14	Natural Uranium	mg/l	18-Aug-99			
GW7	19	Natural Uranium	mg/l	01-Mar-00			

**Table E-3 Southwestern Flow Regime
Basis for ACLs Parameter Estimates for Constituents**

LOCATION	RESULT	ANALYTE	UNITS	DATE			
MWC61	6.98	Nickel	mg/l	14-Jun-93	Parameter Estimates for Nickel count: 42 average: 5.90 std. dev. 1.63 UL_{0.95} (X_{0.95}) 9.34 Constant = 2.106		
MWC61	11.55	Nickel	mg/l	18-Nov-93			
MWC61	6.81	Nickel	mg/l	24-Feb-94			
MWC61	3.29	Nickel	mg/l	19-May-94			
MWC61	4.59	Nickel	mg/l	16-Aug-94			
MWC61	4.07	Nickel	mg/l	09-Nov-94			
MWC61	3.81	Nickel	mg/l	23-Feb-95			
MWC61	4.78	Nickel	mg/l	09-May-95			
MWC61	4.42	Nickel	mg/l	17-Jul-95			
MWC61	3.74	Nickel	mg/l	06-Nov-95			
MWC61	5.28	Nickel	mg/l	12-Feb-96			
MWC61	5.66	Nickel	mg/l	07-May-96			
MWC61	6.5	Nickel	mg/l	12-Sep-96			
MWC61	6.73	Nickel	mg/l	13-Nov-96			
MWC61	5.61	Nickel	mg/l	18-Feb-97			
MWC61	5.89	Nickel	mg/l	22-Apr-97			
MWC61	5.43	Nickel	mg/l	14-Jul-97			
MWC61	4.51	Nickel	mg/l	19-Nov-97			
MWC61	3.81	Nickel	mg/l	09-Feb-98			
MWC61	3.73	Nickel	mg/l	01-Jun-98			
GW3	6.48	Nickel	mg/l	14-Dec-93			
GW3	6.1	Nickel	mg/l	22-Mar-94			
GW3	8.3	Nickel	mg/l	09-Jun-94			
GW3	6.48	Nickel	mg/l	22-Dec-94			
GW3	4.85	Nickel	mg/l	14-Mar-95			
GW3	6.01	Nickel	mg/l	23-May-95			
GW3	7.3	Nickel	mg/l	26-Jul-95			
GW3	5.81	Nickel	mg/l	07-Dec-95			
GW3	5.86	Nickel	mg/l	21-Mar-96			
GW3	8.1	Nickel	mg/l	19-Jun-96			
GW3	8.1	Nickel	mg/l	05-Sep-96			
GW3	6.81	Nickel	mg/l	20-Nov-96			
GW3	6.19	Nickel	mg/l	08-May-97			
GW3	3.22	Nickel	mg/l	20-Aug-97			
GW3	4.94	Nickel	mg/l	29-Oct-97			
GW3	4.81	Nickel	mg/l	24-Feb-98			
GW3	6.86	Nickel	mg/l	09-Jun-98			
GW3	8.1	Nickel	mg/l	16-Sep-98			
GW3	6.57	Nickel	mg/l	23-Nov-98			
GW3	6.84	Nickel	mg/l	09-Feb-99			
GW3	7.25	Nickel	mg/l	19-Aug-99			
GW3	5.5	Nickel	mg/l	02-Feb-00			

**Table E-3 Southwestern Flow Regime
Basis for ACLs Parameter Estimates for Constituents**

LOCATION	RESULT	ANALYTE	UNITS	DATE			
MWC61	290.3	Radium226+228	pCi/l	14-Jun-93	Parameter Estimates for Radium 226+228 count: 67 average: 158.3 std. dev. 97.1 UL_{0.95} (X_{0.95}) 352.52 Constant = 1.9996		
MWC61	407.5	Radium226+228	pCi/l	18-Nov-93			
MWC61	323.3	Radium226+228	pCi/l	24-Feb-94			
MWC61	250.6	Radium226+228	pCi/l	19-May-94			
MWC61	234.2	Radium226+228	pCi/l	16-Aug-94			
MWC61	269.3	Radium226+228	pCi/l	09-Nov-94			
MWC61	243	Radium226+228	pCi/l	23-Feb-95			
MWC61	206.2	Radium226+228	pCi/l	09-May-95			
MWC61	138	Radium226+228	pCi/l	17-Jul-95			
MWC61	127	Radium226+228	pCi/l	06-Nov-95			
MWC61	131	Radium226+228	pCi/l	12-Feb-96			
MWC61	161	Radium226+228	pCi/l	07-May-96			
MWC61	144	Radium226+228	pCi/l	12-Sep-96			
MWC61	156	Radium226+228	pCi/l	13-Nov-96			
MWC61	154	Radium226+228	pCi/l	18-Feb-97			
MWC61	134	Radium226+228	pCi/l	22-Apr-97			
MWC61	143	Radium226+228	pCi/l	14-Jul-97			
MWC61	148	Radium226+228	pCi/l	19-Nov-97			
MWC61	125	Radium226+228	pCi/l	09-Feb-98			
MWC61	126.2	Radium226+228	pCi/l	01-Jun-98			
GW7	123	Radium226+228	pCi/l	15-Jun-93			
GW7	75.6	Radium226+228	pCi/l	13-Dec-93			
GW7	190.1	Radium226+228	pCi/l	16-Mar-94			
GW7	169.4	Radium226+228	pCi/l	02-Jun-94			
GW7	27.2	Radium226+228	pCi/l	15-Aug-94			
GW7	31.4	Radium226+228	pCi/l	06-Dec-94			
GW7	36.9	Radium226+228	pCi/l	27-Jun-95			
GW7	50	Radium226+228	pCi/l	16-Aug-95			
GW7	48.6	Radium226+228	pCi/l	05-Dec-95			
GW7	58	Radium226+228	pCi/l	21-Mar-96			
GW7	57.9	Radium226+228	pCi/l	19-Jun-96			
GW7	19.9	Radium226+228	pCi/l	22-Aug-96			
GW7	135	Radium226+228	pCi/l	11-Nov-96			
GW7	155	Radium226+228	pCi/l	26-Feb-97			
GW7	134	Radium226+228	pCi/l	02-Jun-97			
GW7	279.9	Radium226+228	pCi/l	18-Aug-97			
GW7	255	Radium226+228	pCi/l	28-Oct-97			
GW7	270	Radium226+228	pCi/l	24-Feb-98			
GW7	242	Radium226+228	pCi/l	09-Jun-98			
GW7	228.3	Radium226+228	pCi/l	31-Aug-98			
GW7	183.6	Radium226+228	pCi/l	27-Oct-98			
GW7	178.5	Radium226+228	pCi/l	17-Feb-99			
GW7	153	Radium226+228	pCi/l	18-Aug-99			
GW7	245	Radium226+228	pCi/l	01-Mar-00			
MW7	25.1	Radium226+228	pCi/l	08-Jun-93			
MW7	41.3	Radium226+228	pCi/l	07-Dec-93			
MW7	55	Radium226+228	pCi/l	23-Mar-94			
MW7	42.3	Radium226+228	pCi/l	08-Jun-94			
MW7	57.8	Radium226+228	pCi/l	30-Aug-94			
MW7	22.6	Radium226+228	pCi/l	13-Dec-94			
MW7	11.3	Radium226+228	pCi/l	07-Mar-95			

**Table E-3 Southwestern Flow Regime
Basis for ACLs Parameter Estimates for Constituents**

LOCATION	RESULT	ANALYTE	UNITS	DATE
MW7	29.4	Radium226+228	pCi/l	17-May-95
MW7	40.6	Radium226+228	pCi/l	26-Jul-95
MW7	76.9	Radium226+228	pCi/l	12-Dec-95
MW7	153.9	Radium226+228	pCi/l	19-Mar-96
MW7	176.6	Radium226+228	pCi/l	15-May-96
MW7	245.6	Radium226+228	pCi/l	11-Sep-96
MW7	176.9	Radium226+228	pCi/l	19-Nov-96
MW7	137.4	Radium226+228	pCi/l	19-Feb-97
MW7	362.3	Radium226+228	pCi/l	11-Jun-97
MW7	228.7	Radium226+228	pCi/l	07-Aug-97
MW7	129.2	Radium226+228	pCi/l	27-Oct-97
MW7	97.8	Radium226+228	pCi/l	02-Mar-98
MW7	276.1	Radium226+228	pCi/l	19-May-98
MW7	332	Radium226+228	pCi/l	26-Aug-98
MW7	302.7	Radium226+228	pCi/l	30-Nov-98
MW7	326.3	Radium226+228	pCi/l	03-Feb-99

Table E-3 Southwestern Flow Regime
Basis for ACLs Parameter Estimates for Constituents

LOCATION	RESULT	ANALYTE	UNITS	DATE			
GW5	0.013	Selenium	mg/l	28-Jun-93	Parameter Estimates for Selenium count: 44 average: 0.21 std. dev. 0.15 UL_{0.95} (X_{0.95}) 0.53 Constant = 2.099		
GW5	0.006	Selenium	mg/l	14-Dec-93			
GW5	0.007	Selenium	mg/l	22-Mar-94			
GW5	0.01	Selenium	mg/l	09-Jun-94			
GW5	0.015	Selenium	mg/l	22-Dec-94			
GW5	0.041	Selenium	mg/l	20-Mar-95			
GW5	0.012	Selenium	mg/l	28-Jun-95			
GW5	0.005	Selenium	mg/l	22-Aug-95			
GW5	0.008	Selenium	mg/l	07-Dec-95			
GW5	0.346	Selenium	mg/l	25-Mar-96			
GW5	0.177	Selenium	mg/l	18-Jun-96			
GW5	0.169	Selenium	mg/l	10-Sep-96			
GW5	0.62	Selenium	mg/l	26-Nov-96			
GW5	0.404	Selenium	mg/l	10-Mar-97			
GW5	0.446	Selenium	mg/l	03-Jun-97			
GW5	0.438	Selenium	mg/l	19-Aug-97			
GW5	0.411	Selenium	mg/l	24-Nov-97			
GW5	0.289	Selenium	mg/l	18-Feb-98			
GW5	0.177	Selenium	mg/l	09-Jun-98			
GW5	0.147	Selenium	mg/l	24-Aug-98			
GW5	0.288	Selenium	mg/l	23-Nov-98			
GW5	0.275	Selenium	mg/l	18-Feb-99			
GW5	0.077	Selenium	mg/l	20-Aug-99			
GW5	0.29	Selenium	mg/l	02-Mar-00			
RW2	0.097	Selenium	mg/l	18-May-93			
RW2	0.198	Selenium	mg/l	09-Dec-93			
RW2	0.109	Selenium	mg/l	21-Mar-94			
RW2	0.105	Selenium	mg/l	07-Jun-94			
RW2	0.096	Selenium	mg/l	07-Sep-94			
RW2	0.064	Selenium	mg/l	27-Dec-94			
RW2	0.055	Selenium	mg/l	15-Mar-95			
RW2	0.407	Selenium	mg/l	27-Jun-95			
RW2	0.191	Selenium	mg/l	16-Aug-95			
RW2	0.23	Selenium	mg/l	05-Dec-95			
RW2	0.23	Selenium	mg/l	27-Mar-96			
RW2	0.34	Selenium	mg/l	27-Jun-96			
RW2	0.26	Selenium	mg/l	22-Jun-97			
RW2	0.353	Selenium	mg/l	30-Jul-97			
RW2	0.215	Selenium	mg/l	26-May-98			
RW2	0.245	Selenium	mg/l	22-Sep-98			
RW2	0.31	Selenium	mg/l	17-Nov-98			
RW2	0.33	Selenium	mg/l	25-Feb-99			
RW2	0.228	Selenium	mg/l	12-Aug-99			
RW2	0.37	Selenium	mg/l	06-Mar-00			

**Table E-3 Southwestern Flow Regime
Basis for ACLs Parameter Estimates for Constituents**

LOCATION	RESULT	ANALYTE	UNITS	DATE			
GW7	1	Thorium-230	pCi/l	15-Jun-93			
GW7	1	Thorium-230	pCi/l	13-Dec-93	Parameter Estimates for Thorium-230		
GW7	1	Thorium-230	pCi/l	16-Mar-94	count:	66	
GW7	0.2	Thorium-230	pCi/l	02-Jun-94	average:	6.96	
GW7	1	Thorium-230	pCi/l	15-Aug-94	std. dev.	10.33	
GW7	0.2	Thorium-230	pCi/l	06-Dec-94	UL_{0.95} (X_{0.95})	27.6	Constant = 2.0028
GW7	0.2	Thorium-230	pCi/l	27-Jun-95			
GW7	0.7	Thorium-230	pCi/l	16-Aug-95			
GW7	3	Thorium-230	pCi/l	05-Dec-95	NOTE: Used Highest Observed		
GW7	3.9	Thorium-230	pCi/l	21-Mar-96	Concentration for GW7 of 44.8 pCi/l		
GW7	0.5	Thorium-230	pCi/l	19-Jun-96	as basis for ACL.		
GW7	9.6	Thorium-230	pCi/l	22-Aug-96			
GW7	3.2	Thorium-230	pCi/l	11-Nov-96			
GW7	6.1	Thorium-230	pCi/l	26-Feb-97			
GW7	6.3	Thorium-230	pCi/l	02-Jun-97			
GW7	1.8	Thorium-230	pCi/l	18-Aug-97			
GW7	18	Thorium-230	pCi/l	28-Oct-97			
GW7	13	Thorium-230	pCi/l	24-Feb-98			
GW7	11	Thorium-230	pCi/l	09-Jun-98			
GW7	44.8	Thorium-230	pCi/l	31-Aug-98			
GW7	3.1	Thorium-230	pCi/l	27-Oct-98			
GW7	0.9	Thorium-230	pCi/l	17-Feb-99			
GW7	0.3	Thorium-230	pCi/l	18-Aug-99			
GW7	-0.028	Thorium-230	pCi/l	01-Mar-00			
MW7	1	Thorium-230	pCi/l	23-Mar-94			
MW7	0.2	Thorium-230	pCi/l	08-Jun-94			
MW7	0.2	Thorium-230	pCi/l	30-Aug-94			
MW7	0.8	Thorium-230	pCi/l	13-Dec-94			
MW7	0.2	Thorium-230	pCi/l	07-Mar-95			
MW7	0.3	Thorium-230	pCi/l	17-May-95			
MW7	4.5	Thorium-230	pCi/l	26-Jul-95			
MW7	12	Thorium-230	pCi/l	12-Dec-95			
MW7	12	Thorium-230	pCi/l	19-Mar-96			
MW7	17	Thorium-230	pCi/l	15-May-96			
MW7	39	Thorium-230	pCi/l	11-Sep-96			
MW7	14	Thorium-230	pCi/l	19-Nov-96			
MW7	1.4	Thorium-230	pCi/l	19-Feb-97			
MW7	5.9	Thorium-230	pCi/l	11-Jun-97			
MW7	2.5	Thorium-230	pCi/l	07-Aug-97			
MW7	0.1	Thorium-230	pCi/l	27-Oct-97			
MW7	13	Thorium-230	pCi/l	02-Mar-98			
MW7	10.1	Thorium-230	pCi/l	19-May-98			
MW7	1.9	Thorium-230	pCi/l	26-Aug-98			
MW7	0.9	Thorium-230	pCi/l	30-Nov-98			
MW7	0.7	Thorium-230	pCi/l	03-Feb-99			
GW3	51.7	Thorium-230	pCi/l	22-Mar-94			
GW3	2.5	Thorium-230	pCi/l	09-Jun-94			
GW3	2.5	Thorium-230	pCi/l	22-Dec-94			
GW3	30.1	Thorium-230	pCi/l	14-Mar-95			
GW3	5.3	Thorium-230	pCi/l	23-May-95			
GW3	5.1	Thorium-230	pCi/l	26-Jul-95			

**Table E-3 Southwestern Flow Regime
Basis for ACLs Parameter Estimates for Constituents**

LOCATION	RESULT	ANALYTE	UNITS	DATE
GW3	5	Thorium-230	pCi/l	07-Dec-95
GW3	11	Thorium-230	pCi/l	21-Mar-96
GW3	5.4	Thorium-230	pCi/l	19-Jun-96
GW3	2.3	Thorium-230	pCi/l	05-Sep-96
GW3	4.3	Thorium-230	pCi/l	20-Nov-96
GW3	3.1	Thorium-230	pCi/l	08-May-97
GW3	0.4	Thorium-230	pCi/l	20-Aug-97
GW3	2.5	Thorium-230	pCi/l	29-Oct-97
GW3	1.7	Thorium-230	pCi/l	24-Feb-98
GW3	5.3	Thorium-230	pCi/l	09-Jun-98
GW3	7.8	Thorium-230	pCi/l	16-Sep-98
GW3	8.8	Thorium-230	pCi/l	23-Nov-98
GW3	8	Thorium-230	pCi/l	09-Feb-99
GW3	2.5	Thorium-230	pCi/l	19-Aug-99
GW3	4.6	Thorium-230	pCi/l	02-Feb-00

Table E-4 Western Flow Regime
Basis for ACLs Parameter Estimates for Constituents

LOCATION	RESULT	ANALYTE	UNITS	DATE	
MWC56	0.77	Arsenic	mg/l	03-Jun-93	
MWC56	0.796	Arsenic	mg/l	07-Dec-93	Parameter Estimates for Arsenic count: 21 average: 0.6 std. dev. 0.5 UL_{0.95} (X_{0.95}) 1.8 Constant = 2.371
MWC56	0.459	Arsenic	mg/l	22-Feb-94	
MWC56	1.32	Arsenic	mg/l	10-May-94	
MWC56	0.68	Arsenic	mg/l	17-Aug-94	
MWC56	0.939	Arsenic	mg/l	09-Nov-94	
MWC56	0.822	Arsenic	mg/l	13-Feb-95	
MWC56	1.162	Arsenic	mg/l	09-May-95	
MWC56	0.891	Arsenic	mg/l	18-Jul-95	
MWC56	1.03	Arsenic	mg/l	06-Nov-95	
MWC56	1.63	Arsenic	mg/l	12-Feb-96	
MWC56	1.36	Arsenic	mg/l	14-May-96	
MWI43	0.096	Arsenic	mg/l	09-Sep-96	
MWI43	0.062	Arsenic	mg/l	26-Nov-96	
MWI43	0.095	Arsenic	mg/l	25-Feb-97	
MWI43	0.152	Arsenic	mg/l	22-Apr-97	
MWI43	0.008	Arsenic	mg/l	30-Apr-97	
MWI43	0.204	Arsenic	mg/l	15-Jul-97	
MWI43	0.189	Arsenic	mg/l	30-Oct-97	
MWI43	0.179	Arsenic	mg/l	27-Jan-98	
MWI43	0.152	Arsenic	mg/l	20-Apr-98	

LOCATION	RESULT	ANALYTE	UNITS	DATE	
MWI64	1.26	Beryllium	mg/l	07-Jun-93	
MWI64	0.24	Beryllium	mg/l	23-Aug-95	Parameter Estimates for Beryllium* count: 20 average: 0.80 std. dev. 0.35 UL_{0.95} (X_{0.95}) 1.64 Constant = 2.396 * excludes the single non-detect
MWI64	0.93	Beryllium	mg/l	04-Dec-95	
MWI64	1.34	Beryllium	mg/l	26-Mar-96	
MWI64	0.79	Beryllium	mg/l	22-Apr-97	
MWI64	1.13	Beryllium	mg/l	15-Jul-97	
MWI64	1	Beryllium	mg/l	20-Apr-98	
MWI64	0.73	Beryllium	mg/l	10-Aug-98	
MWI64	0.57	Beryllium	mg/l	20-Oct-98	
MWI64	0.82	Beryllium	mg/l	08-Mar-99	
MWI64	0.24	Beryllium	mg/l	12-Aug-99	
MWI64	0.72	Beryllium	mg/l	08-Mar-00	
MWI43	0.75	Beryllium	mg/l	09-Sep-96	
MWI43	0.83	Beryllium	mg/l	26-Nov-96	
MWI43	0.87	Beryllium	mg/l	25-Feb-97	
MWI43	1.16	Beryllium	mg/l	22-Apr-97	
MWI43	0.01	Beryllium	mg/l	30-Apr-97	
MWI43	0.56	Beryllium	mg/l	15-Jul-97	
MWI43	1.09	Beryllium	mg/l	30-Oct-97	
MWI43	<.01	Beryllium	mg/l	27-Jan-98	
MWI43	1.04	Beryllium	mg/l	20-Apr-98	

**Table E-4 Western Flow Regime
Basis for ACLs Parameter Estimates for Constituents**

LOCATION	RESULT	ANALYTE	UNITS	DATE			
MWC55	37	Gross Alpha minus Natural Uranium	pCi/l	22-Feb-94	Parameter Estimates for Gross Alpha minus Natural Uranium		
MWC55	109	Gross Alpha minus Natural Uranium	pCi/l	10-May-94			
MWC55	-3912	Gross Alpha minus Natural Uranium	pCi/l	17-Aug-94			
MWC55	-3686	Gross Alpha minus Natural Uranium	pCi/l	09-Nov-94			
MWC55	-3232	Gross Alpha minus Natural Uranium	pCi/l	13-Feb-95	count:	26	
MWC55	-4095	Gross Alpha minus Natural Uranium	pCi/l	09-May-95	average:	(556.5)	
MWC55					std. dev.	1,710.0	
MWC55					UI_{0.95} (X_{0.95})	3,338.2	Constant = 2.2776
MWC55	302	Gross Alpha minus Natural Uranium	pCi/l	24-Jul-95			
MWC55	-806	Gross Alpha minus Natural Uranium	pCi/l	13-Nov-95			
MWC55	-1552	Gross Alpha minus Natural Uranium	pCi/l	12-Feb-96			
MWC55	0	Gross Alpha minus Natural Uranium	pCi/l	26-Jun-96			
MWI64	77	Gross Alpha minus Natural Uranium	pCi/l	07-Jun-93			
MWI64	346	Gross Alpha minus Natural Uranium	pCi/l	23-Aug-95			
MWI64	2736	Gross Alpha minus Natural Uranium	pCi/l	04-Dec-95			
MWI64	-30	Gross Alpha minus Natural Uranium	pCi/l	26-Mar-96			
MWI64	86	Gross Alpha minus Natural Uranium	pCi/l	22-Apr-97			
MWI64	495	Gross Alpha minus Natural Uranium	pCi/l	15-Jul-97			
MWI64	523	Gross Alpha minus Natural Uranium	pCi/l	20-Apr-98			
MWI64	687	Gross Alpha minus Natural Uranium	pCi/l	10-Aug-98			
MWI64	1454	Gross Alpha minus Natural Uranium	pCi/l	20-Oct-98			
MWI64	-1033	Gross Alpha minus Natural Uranium	pCi/l	08-Mar-99			
MWI64	1477	Gross Alpha minus Natural Uranium	pCi/l	08-Mar-00			
MW67	101	Gross Alpha minus Natural Uranium	pCi/l	29-Jun-93			
MW67	165	Gross Alpha minus Natural Uranium	pCi/l	24-Jan-94			
MW67	-1358	Gross Alpha minus Natural Uranium	pCi/l	13-Dec-95			
MW67	-1239	Gross Alpha minus Natural Uranium	pCi/l	22-Mar-96			
MW67	-2120	Gross Alpha minus Natural Uranium	pCi/l	09-Jul-96			

**Table E-4 Western Flow Regime
Basis for ACLs Parameter Estimates for Constituents**

LOCATION	RESULT	ANALYTE	UNITS	DATE			
MWC55	9.6	Lead-210	pCi/l	03-May-93			
MWC55	25.7	Lead-210	pCi/l	02-Dec-93	Parameter Estimates for Lead-210		
MWC55	1.7	Lead-210	pCi/l	22-Feb-94	count:	26	
MWC55	5.8	Lead-210	pCi/l	10-May-94	average:	11.0	
MWC55	17.2	Lead-210	pCi/l	17-Aug-94	std. dev.	10.7	
MWC55	8.5	Lead-210	pCi/l	13-Feb-95	UL_{0.90} (X_{0.99})	35.4	Constant = 2.2776
MWC55	18.2	Lead-210	pCi/l	09-May-95			
MWC55	4.5	Lead-210	pCi/l	24-Jul-95			
MWC55	10	Lead-210	pCi/l	13-Nov-95			
MWC55	3.9	Lead-210	pCi/l	12-Feb-96			
MWC55	14	Lead-210	pCi/l	26-Jun-96			
MW67	9.1	Lead-210	pCi/l	24-Jan-94			
MW67	35	Lead-210	pCi/l	13-Dec-95			
MW67	15	Lead-210	pCi/l	22-Mar-96			
MW67	14	Lead-210	pCi/l	09-Jul-96			
MW164	17	Lead-210	pCi/l	23-Aug-95			
MW164	4.8	Lead-210	pCi/l	04-Dec-95			
MW164	10	Lead-210	pCi/l	26-Mar-96			
MW164	4.1	Lead-210	pCi/l	22-Apr-97			
MW164	3	Lead-210	pCi/l	15-Jul-97			
MW164	2.3	Lead-210	pCi/l	20-Apr-98			
MW164	1.8	Lead-210	pCi/l	10-Aug-98			
MW164	45	Lead-210	pCi/l	20-Oct-98			
MW164	2.7	Lead-210	pCi/l	08-Mar-99			
MW164	1.3	Lead-210	pCi/l	12-Aug-99			
MW164	2.9	Lead-210	pCi/l	08-Mar-00			

Table E-4 Western Flow Regime
Basis for ACLs Parameter Estimates for Constituents

LOCATION	RESULT	ANALYTE	UNITS	DATE			
MWI64	0.510	Natural Uranium	mg/l	07-Jun-93	Parameter estimates for Natural Uranium count: 27 average: 5.5 std. dev. 2.8 UL_{0.95}(X_{0.95}) 11.9 Constant = 2.2632		
MW67	6.564	Natural Uranium	mg/l	29-Jun-93			
MW67	7.895	Natural Uranium	mg/l	24-Jan-94			
MWI64	0.88	Natural Uranium	mg/l	23-Aug-95			
MWI64	3.64	Natural Uranium	mg/l	04-Dec-95			
MW67	11.4	Natural Uranium	mg/l	13-Dec-95			
MW67	9.6	Natural Uranium	mg/l	22-Mar-96			
MWI64	10	Natural Uranium	mg/l	26-Mar-96			
MW67	10	Natural Uranium	mg/l	09-Jul-96			
MWI64	3.3	Natural Uranium	mg/l	22-Apr-97			
MWI64	2.4	Natural Uranium	mg/l	15-Jul-97			
MWI64	6.2	Natural Uranium	mg/l	20-Apr-98			
MWI64	3.8	Natural Uranium	mg/l	10-Aug-98			
MWI64	5.4	Natural Uranium	mg/l	20-Oct-98			
MWI64	7.7	Natural Uranium	mg/l	08-Mar-99			
MWI64	1.6	Natural Uranium	mg/l	12-Aug-99			
MWI64	5.5	Natural Uranium	mg/l	08-Mar-00			
MWC55	3.96	Natural Uranium	mg/l	22-Feb-94			
MWC55	4.44	Natural Uranium	mg/l	10-May-94			
MWC55	5.87	Natural Uranium	mg/l	17-Aug-94			
MWC55	5.61	Natural Uranium	mg/l	09-Nov-94			
MWC55	4.97	Natural Uranium	mg/l	13-Feb-95			
MWC55	6.37	Natural Uranium	mg/l	09-May-95			
MWC55	2.67	Natural Uranium	mg/l	24-Jul-95			
MWC55	7.01	Natural Uranium	mg/l	13-Nov-95			
MWC55	7.30	Natural Uranium	mg/l	12-Feb-96			
MWC55	4.80	Natural Uranium	mg/l	26-Jun-96			

Table E-4 Western Flow Regime
Basis for ACLs Parameter Estimates for Constituents

LOCATION	RESULT	ANALYTE	UNITS	DATE			
MWC42	0.09	Nickel	mg/l	10-Jun-93	Parameter Estimates for Nickel count: 37 average: 5.4 std. dev. 3.5 UL_{0.95} (X_{0.95}) 13.0 Constant = 2.15		
MWC42	0.07	Nickel	mg/l	02-Dec-93			
MWC42	6.53	Nickel	mg/l	22-Feb-94			
MWC42	0.06	Nickel	mg/l	10-May-94			
MWC42	0.01	Nickel	mg/l	17-Aug-94			
MWC42	0.01	Nickel	mg/l	09-Nov-94			
MWC42	0.08	Nickel	mg/l	13-Feb-95			
MWC42	0.7	Nickel	mg/l	29-Jun-95			
MWC42	0.65	Nickel	mg/l	14-Aug-95			
MWC42	11.7	Nickel	mg/l	28-Nov-95			
MWC42	8.93	Nickel	mg/l	26-Feb-96			
MWC42	11.6	Nickel	mg/l	24-May-96			
MWC42	10.2	Nickel	mg/l	10-Sep-96			
MW67	8.87	Nickel	mg/l	24-Jan-94			
MW67	8.55	Nickel	mg/l	13-Dec-95			
MW67	7.94	Nickel	mg/l	22-Mar-96			
MW67	8.9	Nickel	mg/l	09-Jul-96			
MWI43	7.63	Nickel	mg/l	09-Sep-96			
MWI43	7.71	Nickel	mg/l	26-Nov-96			
MWI43	7.77	Nickel	mg/l	25-Feb-97			
MWI43	6.59	Nickel	mg/l	22-Apr-97			
MWI43	0.05	Nickel	mg/l	30-Apr-97			
MWI43	4.8	Nickel	mg/l	15-Jul-97			
MWI43	6.4	Nickel	mg/l	30-Oct-97			
MWI43	6.31	Nickel	mg/l	27-Jan-98			
MWI43	6.29	Nickel	mg/l	20-Apr-98			
MWI64	2.92	Nickel	mg/l	23-Aug-95			
MWI64	6.74	Nickel	mg/l	04-Dec-95			
MWI64	8.88	Nickel	mg/l	26-Mar-96			
MWI64	5.25	Nickel	mg/l	22-Apr-97			
MWI64	6.57	Nickel	mg/l	15-Jul-97			
MWI64	6.52	Nickel	mg/l	20-Apr-98			
MWI64	5.91	Nickel	mg/l	10-Aug-98			
MWI64	4.05	Nickel	mg/l	20-Oct-98			
MWI64	5.68	Nickel	mg/l	08-Mar-99			
MWI64	3.32	Nickel	mg/l	12-Aug-99			
MWI64	4.7	Nickel	mg/l	08-Mar-00			

Table E-4 Western Flow Regime
Basis for ACLs Parameter Estimates for Constituents

LOCATION	RESULT	ANALYTE	UNITS	DATE			
MWC59	91.8	Radium 226+228	pCi/l	01-Jun-93	Parameter Estimates for Radium226+228 count: 33 average: 124.1 std. dev. 55.7 UL_{0.95} (X_{0.95}) 246 Constant = 2.188		
MWC59	95.7	Radium 226+228	pCi/l	02-Dec-93			
MWC59	98.3	Radium 226+228	pCi/l	22-Feb-94			
MWC59	150.8	Radium 226+228	pCi/l	10-May-94			
MWC59	84.7	Radium 226+228	pCi/l	17-Aug-94			
MWC59	112.3	Radium 226+228	pCi/l	09-Nov-94			
MWC59	118.9	Radium 226+228	pCi/l	21-Feb-95			
MWC59	14.2	Radium 226+228	pCi/l	16-May-95			
MWC59	49.0	Radium 226+228	pCi/l	19-Jul-95			
MWC59	222.0	Radium 226+228	pCi/l	28-Nov-95			
MWC59	192.0	Radium 226+228	pCi/l	14-Feb-96			
MWC59	193.0	Radium 226+228	pCi/l	15-May-96			
MWI43	178.8	Radium 226+228	pCi/l	20-Apr-98			
MWI43	165.0	Radium 226+228	pCi/l	27-Jan-98			
MWI43	162.0	Radium 226+228	pCi/l	30-Oct-97			
MWI43	201.0	Radium 226+228	pCi/l	15-Jul-97			
MWI43	16.4	Radium 226+228	pCi/l	30-Apr-97			
MWI43	149.0	Radium 226+228	pCi/l	22-Apr-97			
MWI43	114.0	Radium 226+228	pCi/l	25-Feb-97			
MWI43	79.0	Radium 226+228	pCi/l	26-Nov-96			
MWI43	77.0	Radium 226+228	pCi/l	09-Sep-96			
MWI64	78.5	Radium 226+228	pCi/l	07-Jun-93			
MWI64	35.0	Radium 226+228	pCi/l	23-Aug-95			
MWI64	127.0	Radium 226+228	pCi/l	04-Dec-95			
MWI64	178.0	Radium 226+228	pCi/l	26-Mar-96			
MWI64	125.0	Radium 226+228	pCi/l	22-Apr-97			
MWI64	154.0	Radium 226+228	pCi/l	15-Jul-97			
MWI64	199.0	Radium 226+228	pCi/l	20-Apr-98			
MWI64	134.3	Radium 226+228	pCi/l	10-Aug-98			
MWI64	125.2	Radium 226+228	pCi/l	20-Oct-98			
MWI64	203.0	Radium 226+228	pCi/l	08-Mar-99			
MWI64	97.9	Radium 226+228	pCi/l	12-Aug-99			
MWI64	73.0	Radium 226+228	pCi/l	08-Mar-00			

Table E-4 Western Flow Regime
Basis for ACLs Parameter Estimates for Constituents

LOCATION	RESULT	ANALYTE	UNITS	DATE			
MW67	0.176	Selenium	mg/l	29-Jun-93	Parameter Estimates for Selenium count: 28 average: 0.095 std. dev. 0.029 UL_{0.95} (X_{0.95}) 0.161 Constant = 2.2488		
MW67	0.11	Selenium	mg/l	24-Jan-94			
MW67	0.138	Selenium	mg/l	13-Dec-95			
MW67	0.178	Selenium	mg/l	22-Mar-96			
MW67	0.135	Selenium	mg/l	09-Jul-96			
MW1	0.07	Selenium	mg/l	14-Mar-94			
MW1	0.076	Selenium	mg/l	06-Jun-94			
MW1	0.089	Selenium	mg/l	29-Aug-94			
MW1	0.072	Selenium	mg/l	28-Nov-94			
MW1	0.076	Selenium	mg/l	22-Feb-95			
MW1	0.08	Selenium	mg/l	16-May-95			
MW1	0.1	Selenium	mg/l	24-Jul-95			
MW1	0.097	Selenium	mg/l	14-Nov-95			
MW1	0.055	Selenium	mg/l	21-Feb-96			
MW1	0.07	Selenium	mg/l	15-May-96			
MW1	0.1	Selenium	mg/l	09-Sep-96			
MW1	0.083	Selenium	mg/l	18-Nov-96			
MW1	0.076	Selenium	mg/l	18-Feb-97			
MW1	0.082	Selenium	mg/l	12-Jun-97			
MW1	0.083	Selenium	mg/l	31-Jul-97			
MW1	0.081	Selenium	mg/l	23-Oct-97			
MW1	0.087	Selenium	mg/l	03-Feb-98			
MW1	0.099	Selenium	mg/l	04-May-98			
MW1	0.095	Selenium	mg/l	13-Aug-98			
MW1	0.091	Selenium	mg/l	27-Oct-98			
MW1	0.079	Selenium	mg/l	25-Jan-99			
MW1	0.08	Selenium	mg/l	26-Aug-99			
MW1	0.095	Selenium	mg/l	07-Feb-00			

LOCATION	RESULT	ANALYTE	UNITS	DATE			
MW67	17	Thorium-225	pCi/l	29-Jun-93	Parameter Estimates for Thorium-230 count: 15 average: 13.7 std. dev. 17.0 UL_{0.95} (X_{0.95}) 57.4 Constant = 2.566		
MW67	19.6	Thorium-226	pCi/l	24-Jan-94			
MW67	60	Thorium-227	pCi/l	13-Dec-95			
MW67	33	Thorium-228	pCi/l	22-Mar-96			
MW67	35	Thorium-229	pCi/l	09-Jul-96			
MWC55	1	Thorium-230	pCi/l	22-Feb-94			
MWC55	0.2	Thorium-230	pCi/l	10-May-94			
MWC55	7.6	Thorium-230	pCi/l	17-Aug-94			
MWC55	0.2	Thorium-230	pCi/l	09-Nov-94			
MWC55	2.9	Thorium-230	pCi/l	13-Feb-95			
MWC55	2.3	Thorium-230	pCi/l	09-May-95			
MWC55	5.1	Thorium-230	pCi/l	24-Jul-95			
MWC55	11	Thorium-230	pCi/l	13-Nov-95			
MWC55	7.2	Thorium-230	pCi/l	12-Feb-96			
MWC55	3.5	Thorium-230	pCi/l	26-Jun-96			

Figure E-1. Western Flow Regime - Basis for Arsenic ACL (MWC56 and MWI43)

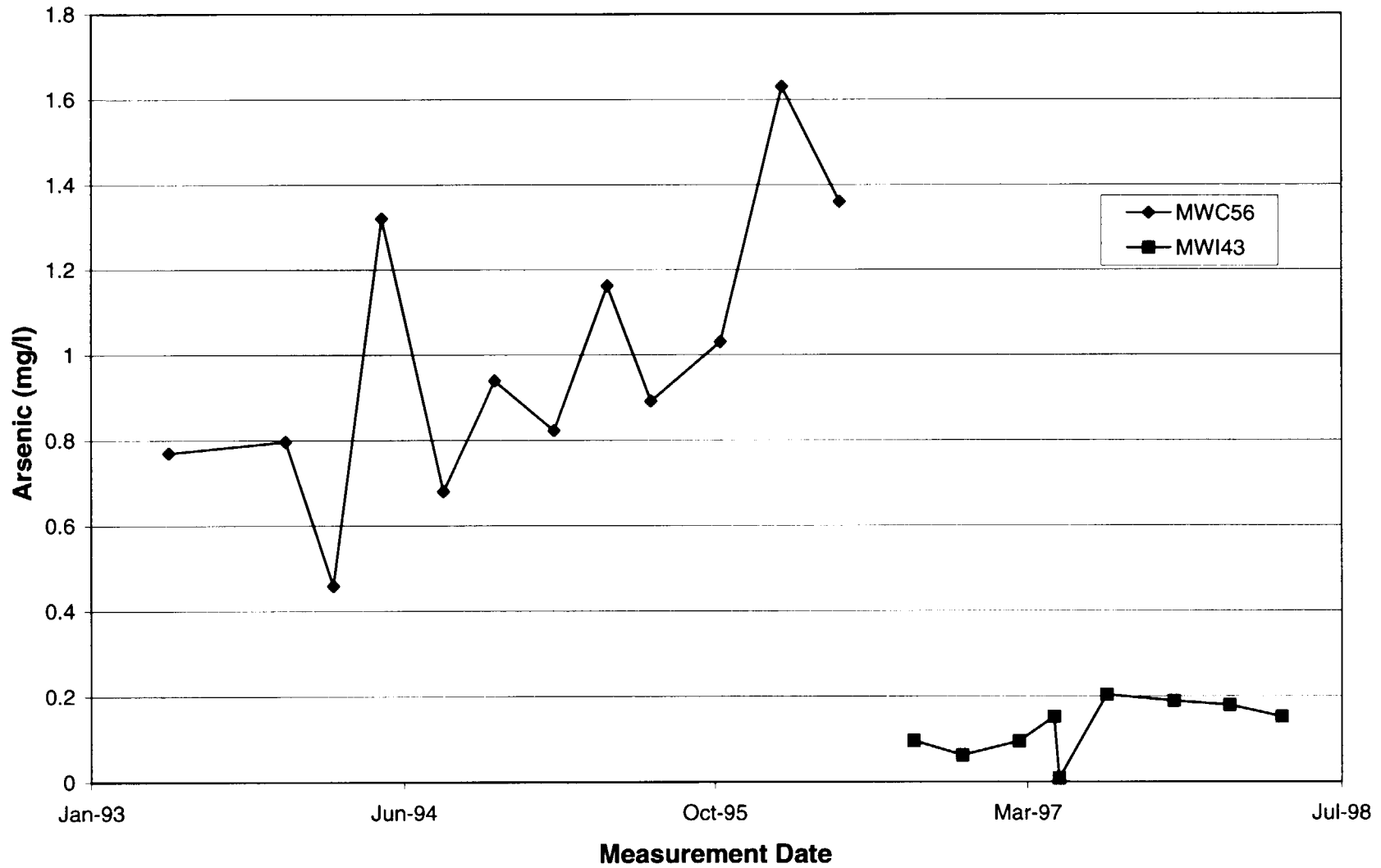
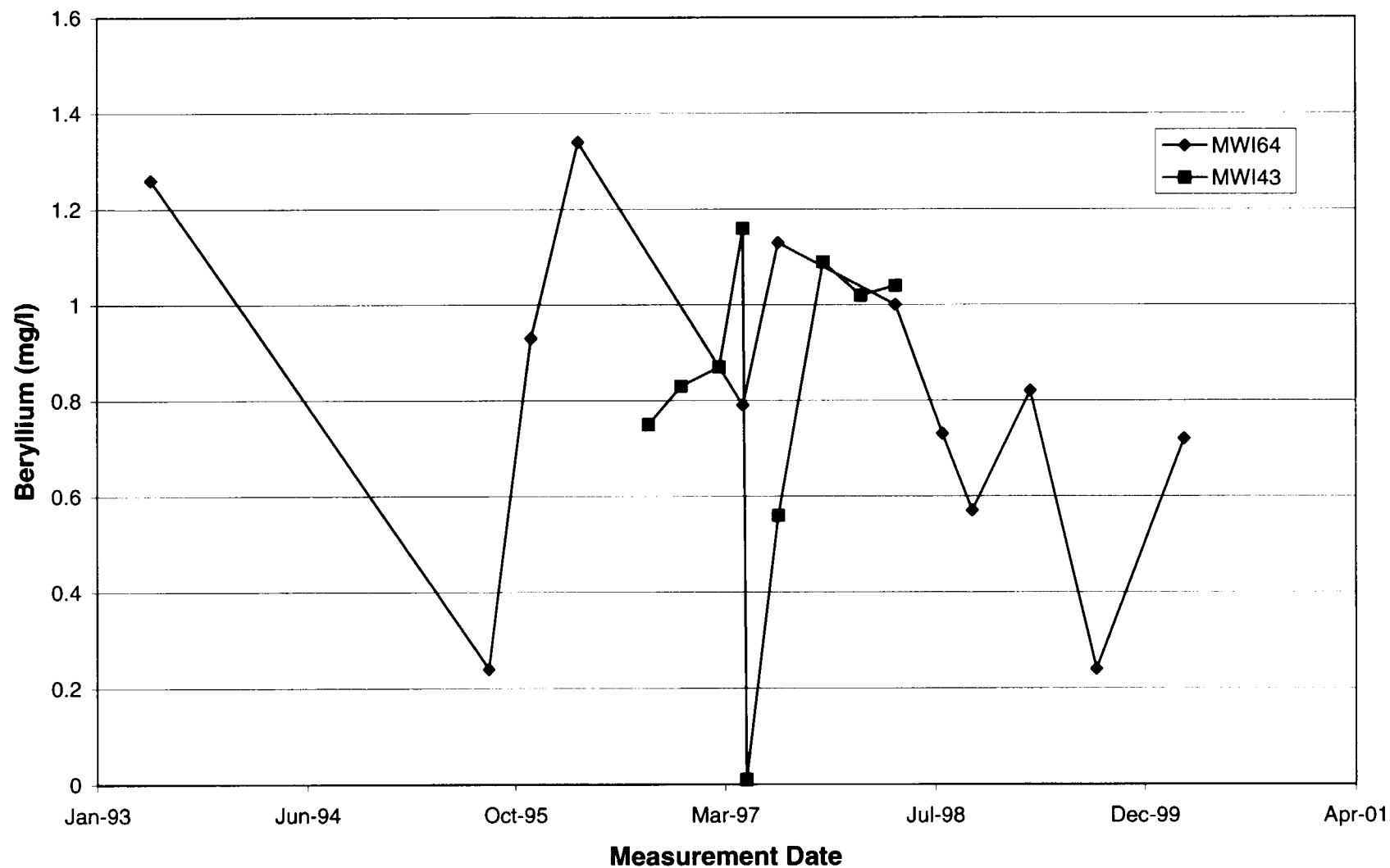


Figure E-2. Western Flow Regime - Basis for Beryllium ACL (MWI43 and MWI64)



**Figure E-3. Western Flow Regime - Basis for Gross Alpha minus Natural Uranium ACL
(MWC55, MWI64 and MW67)**

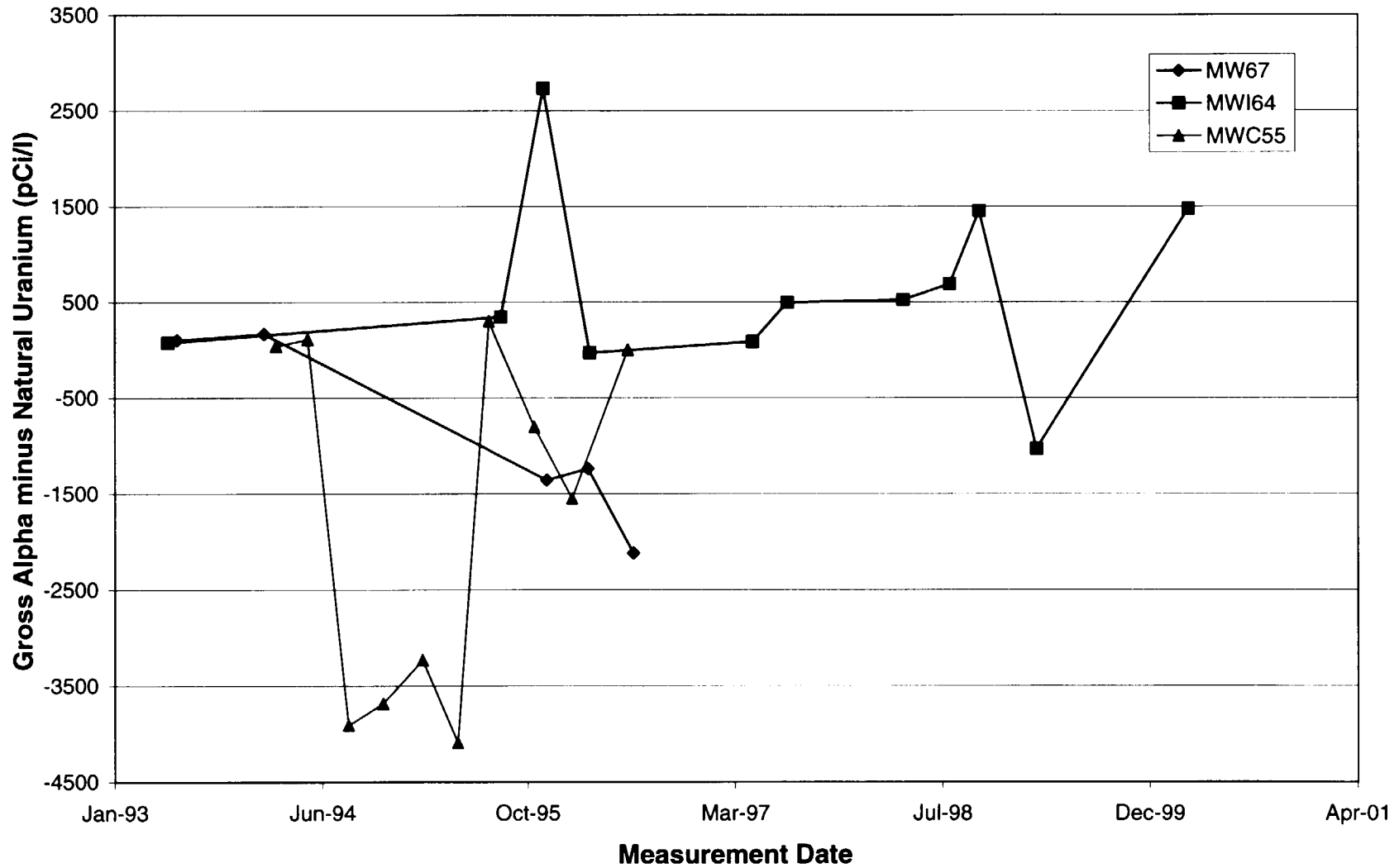
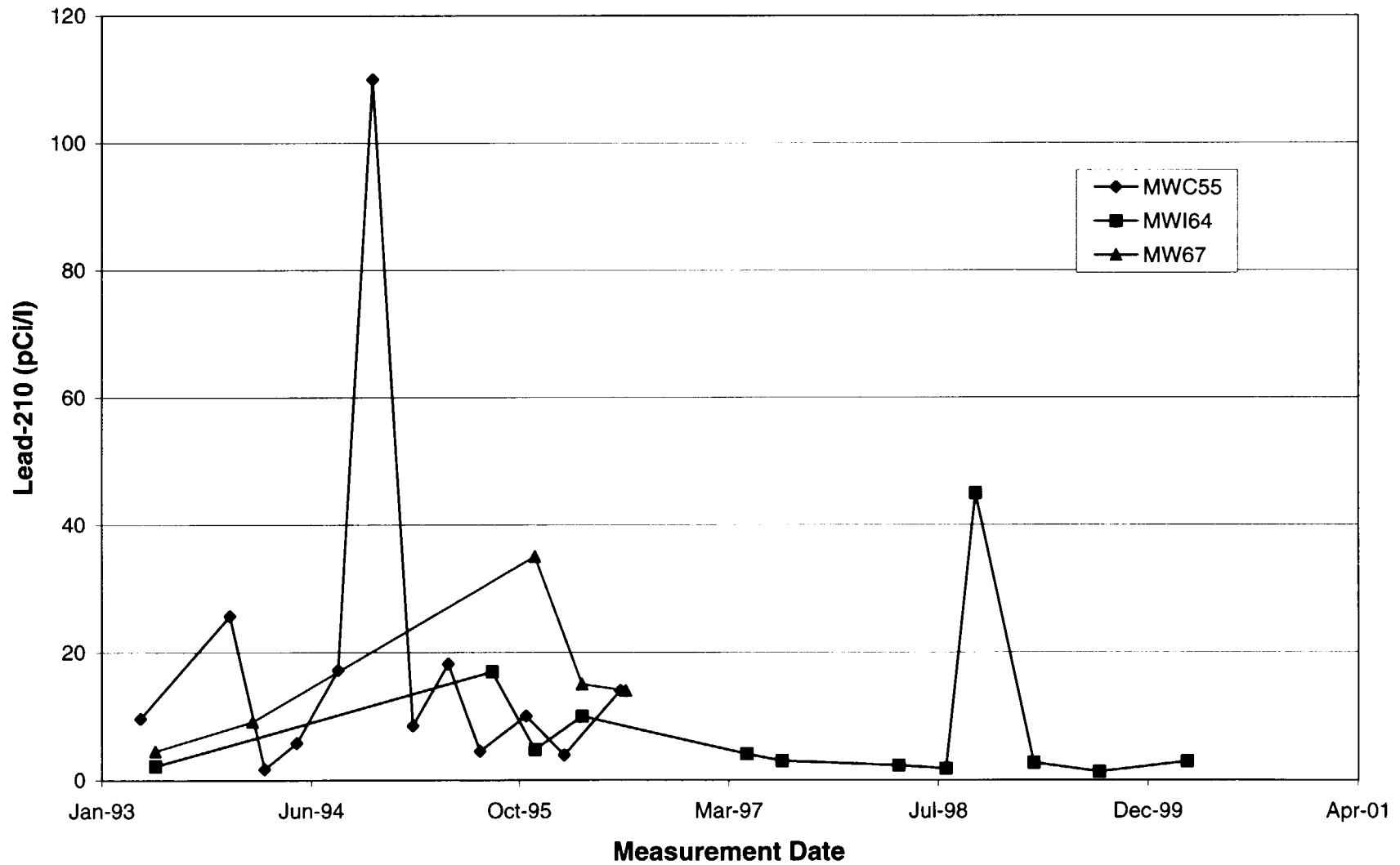
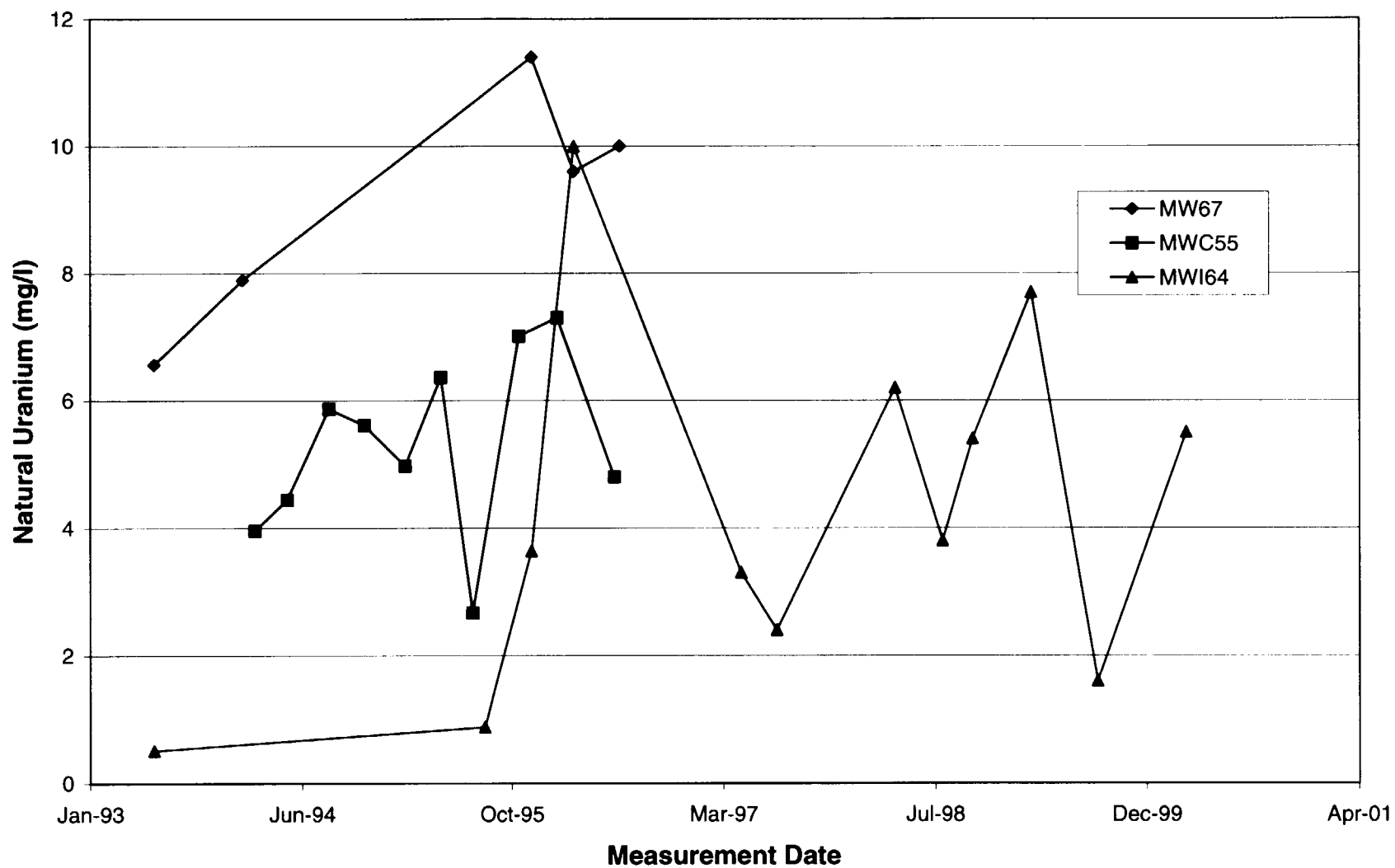


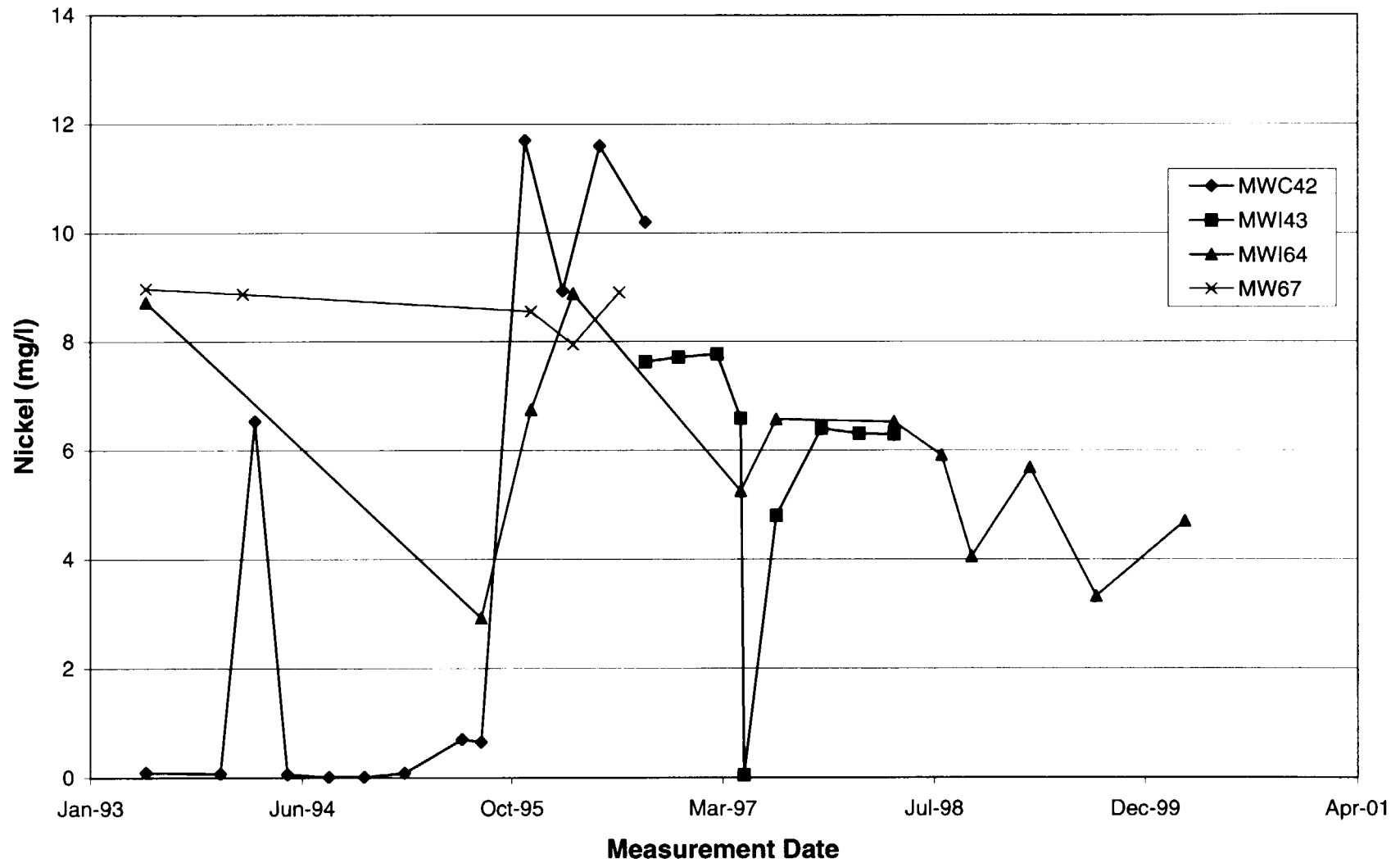
Figure E-4. Western Flow Regime - Basis for Lead-210 ACL (MW67, MWC55 and MWI64)



**Figure E-5. Western Flow Regime - Basis for Natural Uranium ACL
(MW67, MWI64 and MWC55)**



**Figure E-6. Western Flow Regime - Basis for Nickel ACL
(MW67, MWI43, MWI64 and MWC42)**



**Figure E-7. Western Flow Regime - Basis for Radium-226+228 ACL
(MWI43, MWI64 and MWC59)**

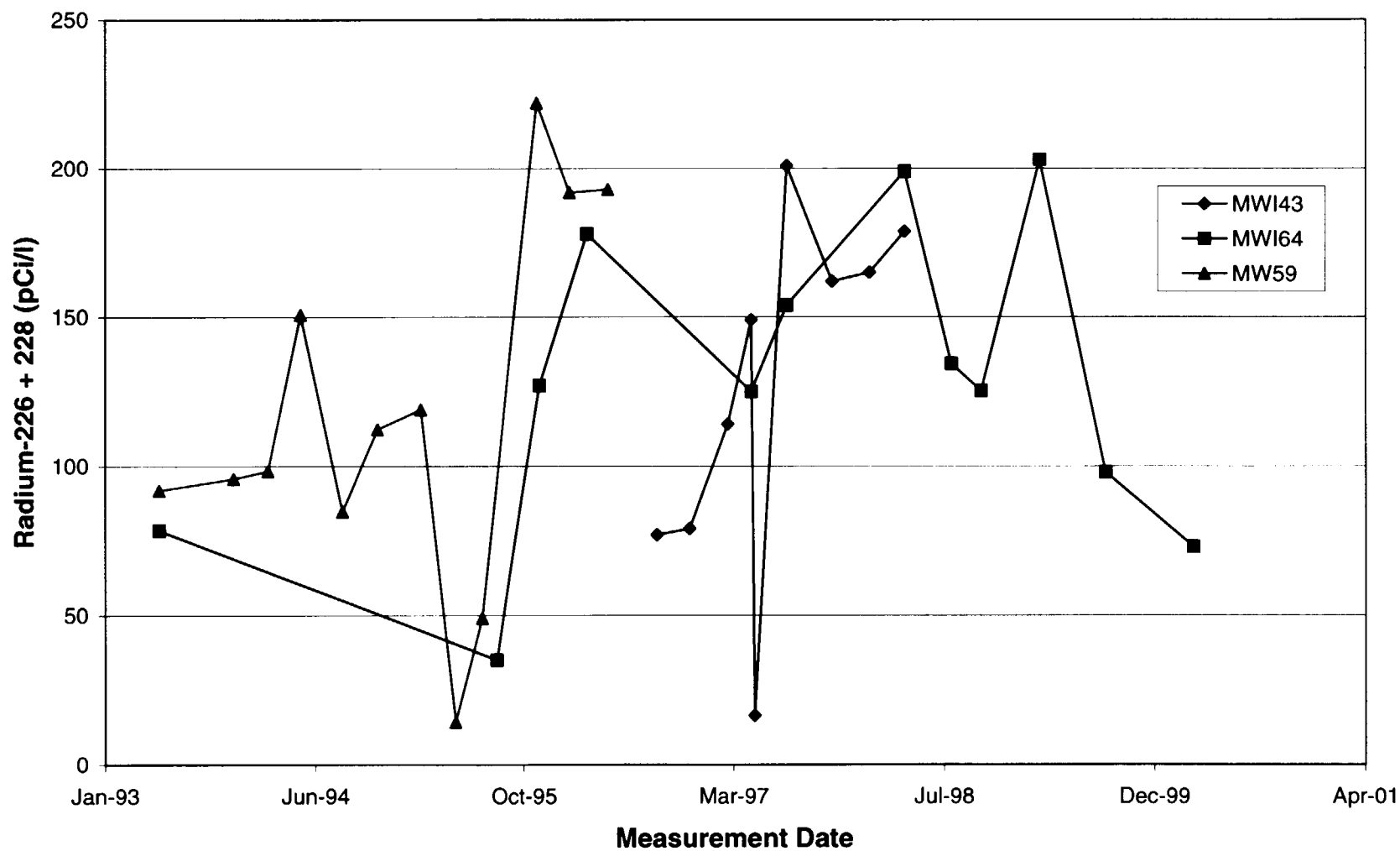


Figure E-8. Western Flow Regime - Basis for Selenium ACL (MW1 and MW67)

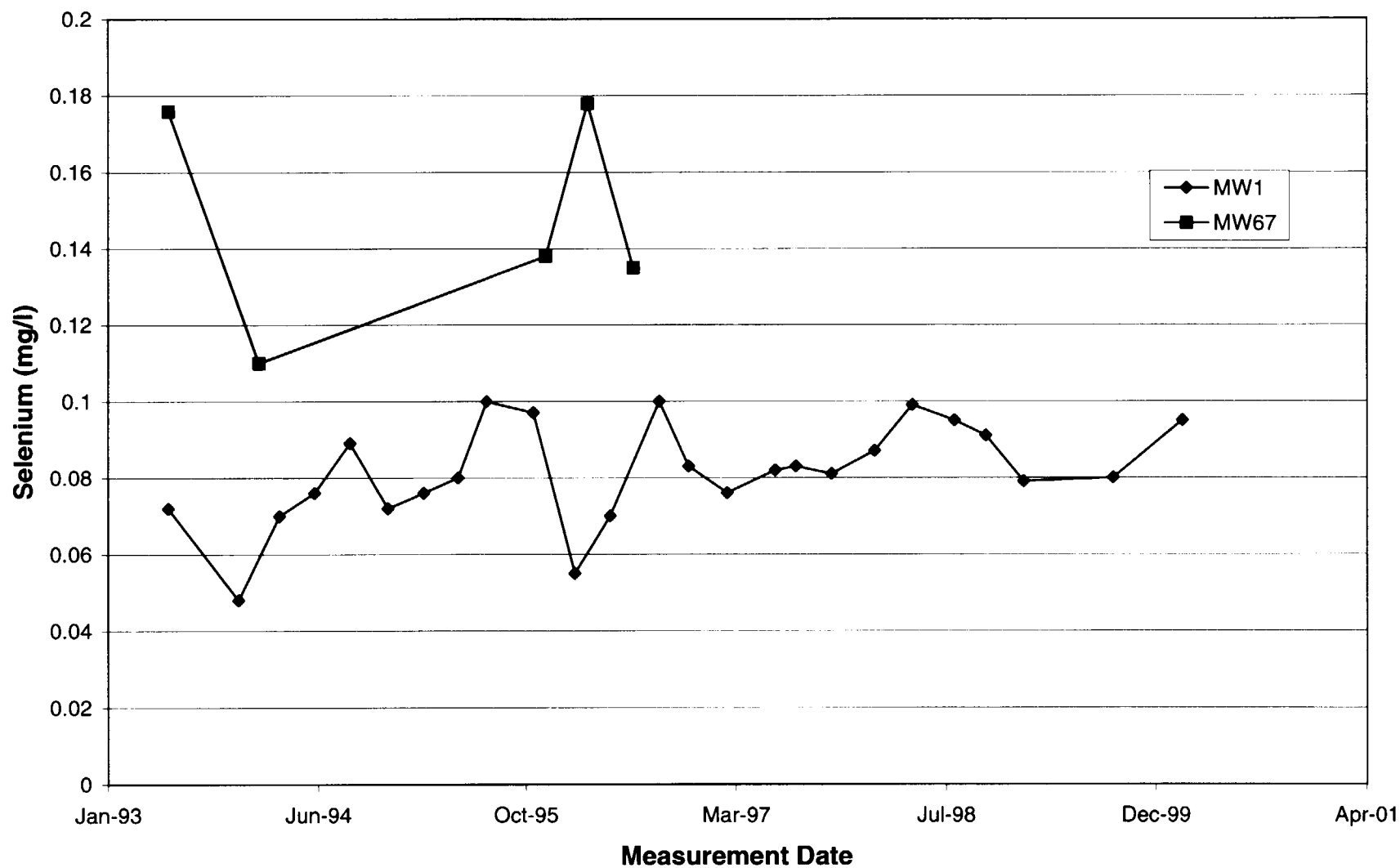


Figure E-9. Western Flow Regime - Basis for Thorium-230 ACL (MW67 and MWC55)

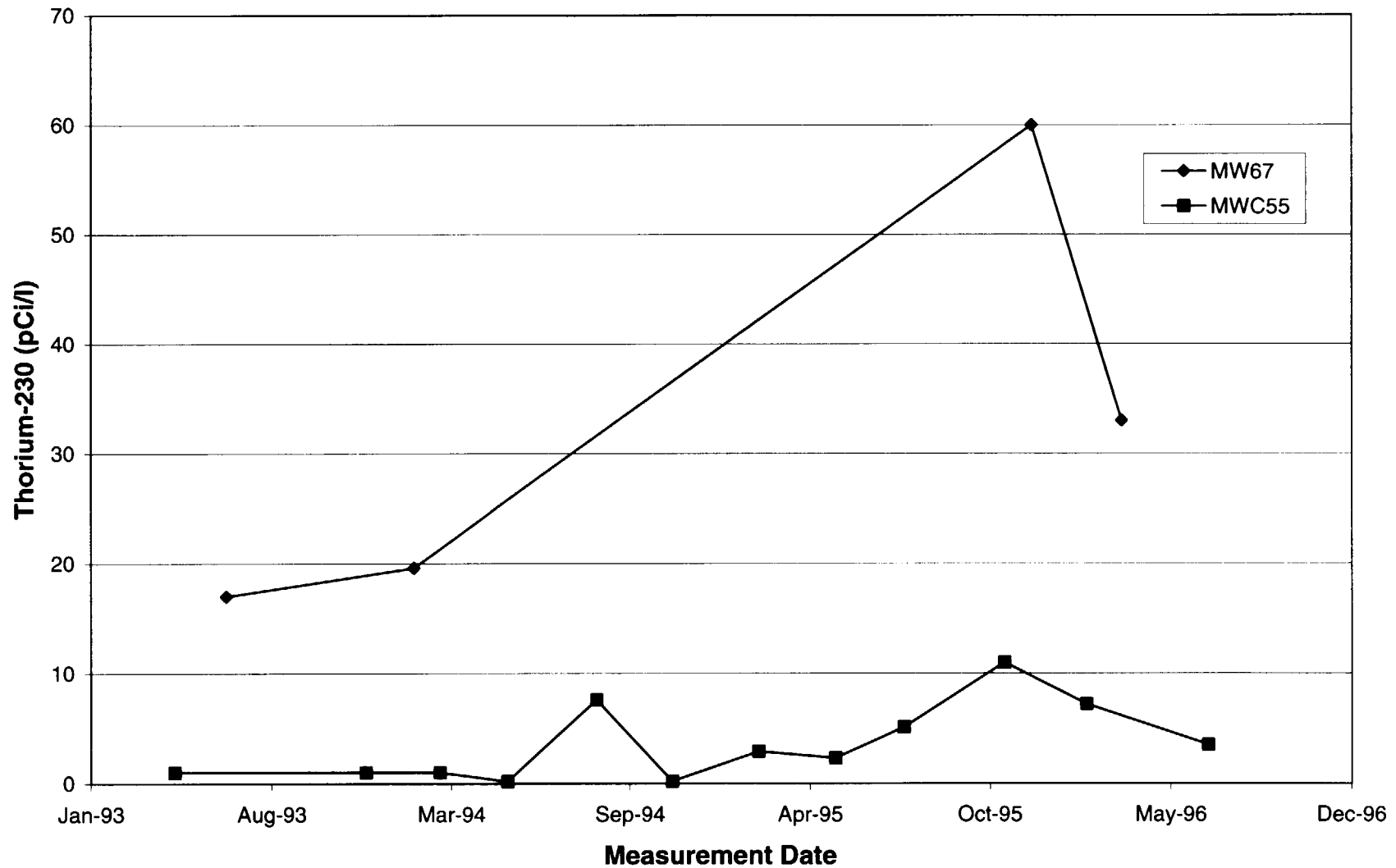


Figure E-10. Southwestern Flow Regime - Basis for Arsenic ACL (PW7)

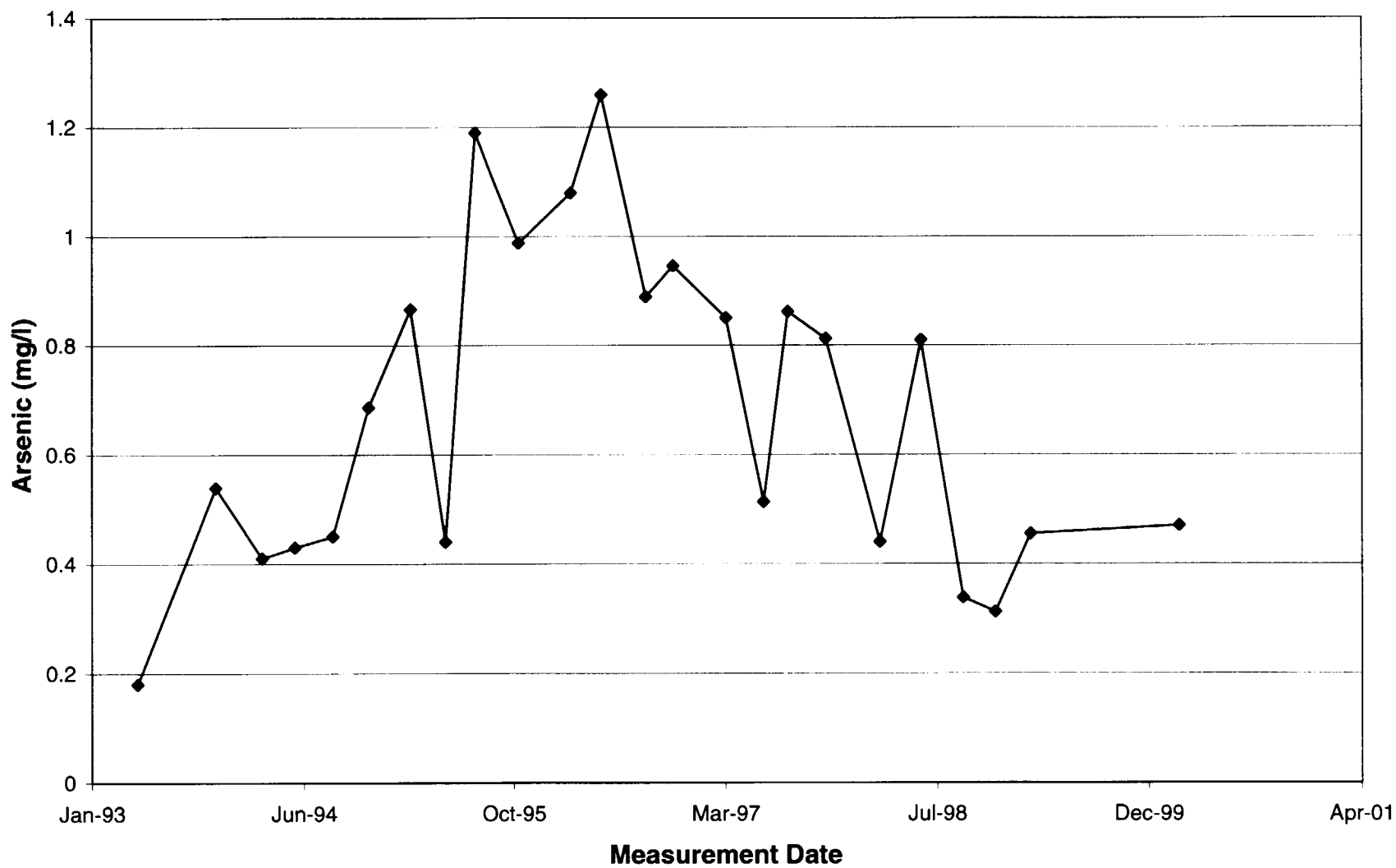


Figure E-11. Southwestern Flow Regime - Basis for Beryllium ACL (GW3 and MWC61)

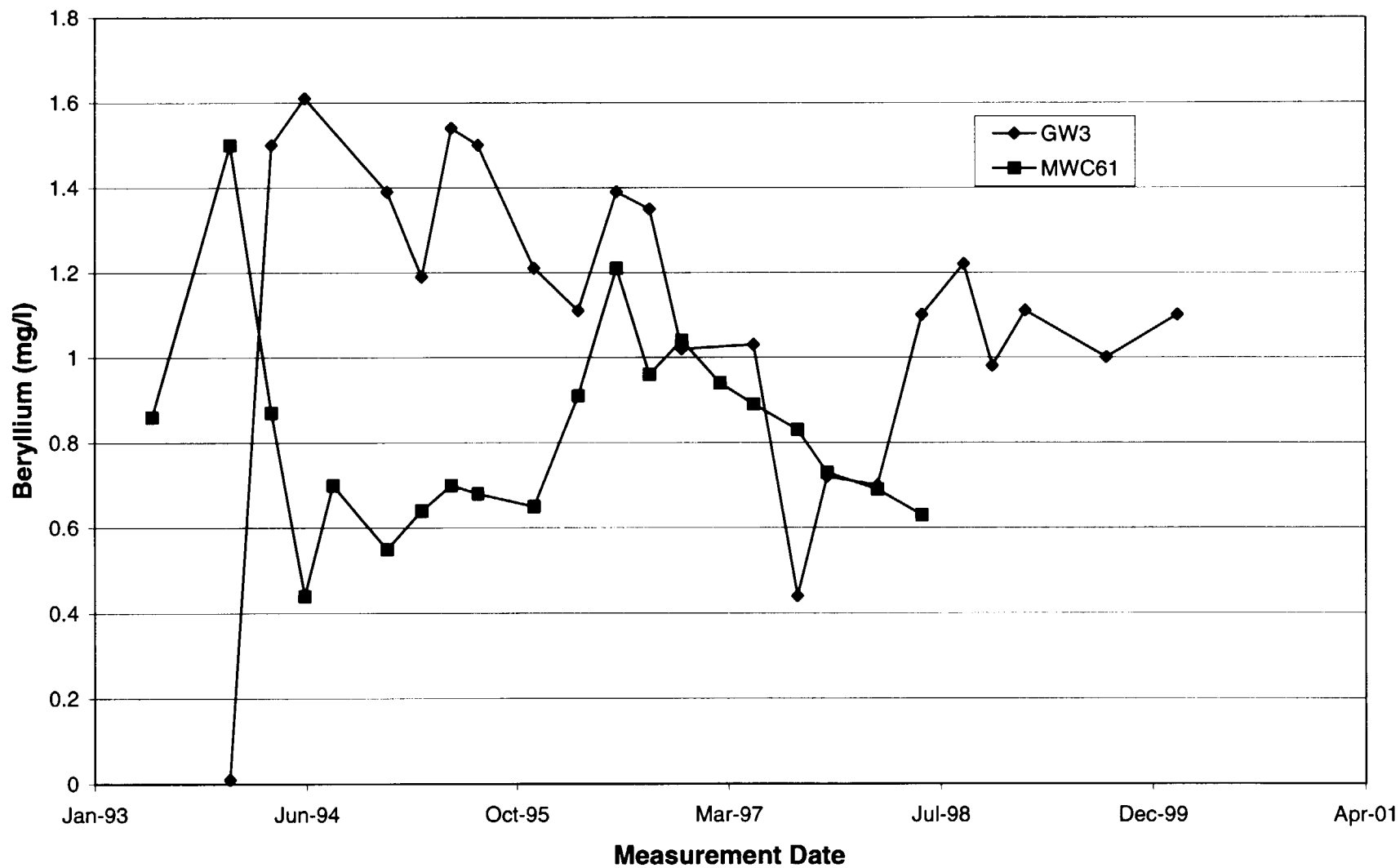


Figure E-12. Southwestern Flow Regime - Basis for Gross Alpha minus Natural Uranium (GW7)

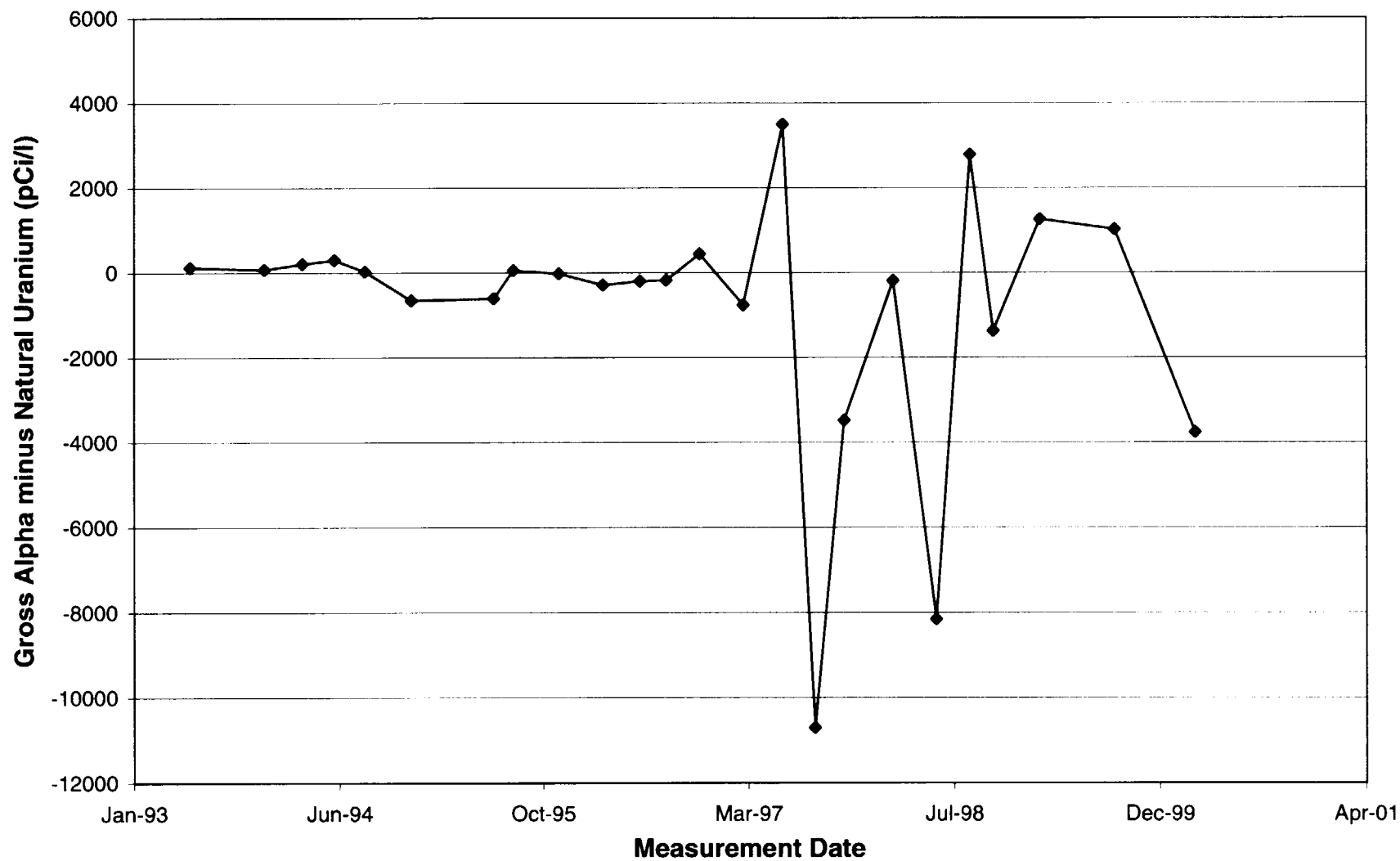
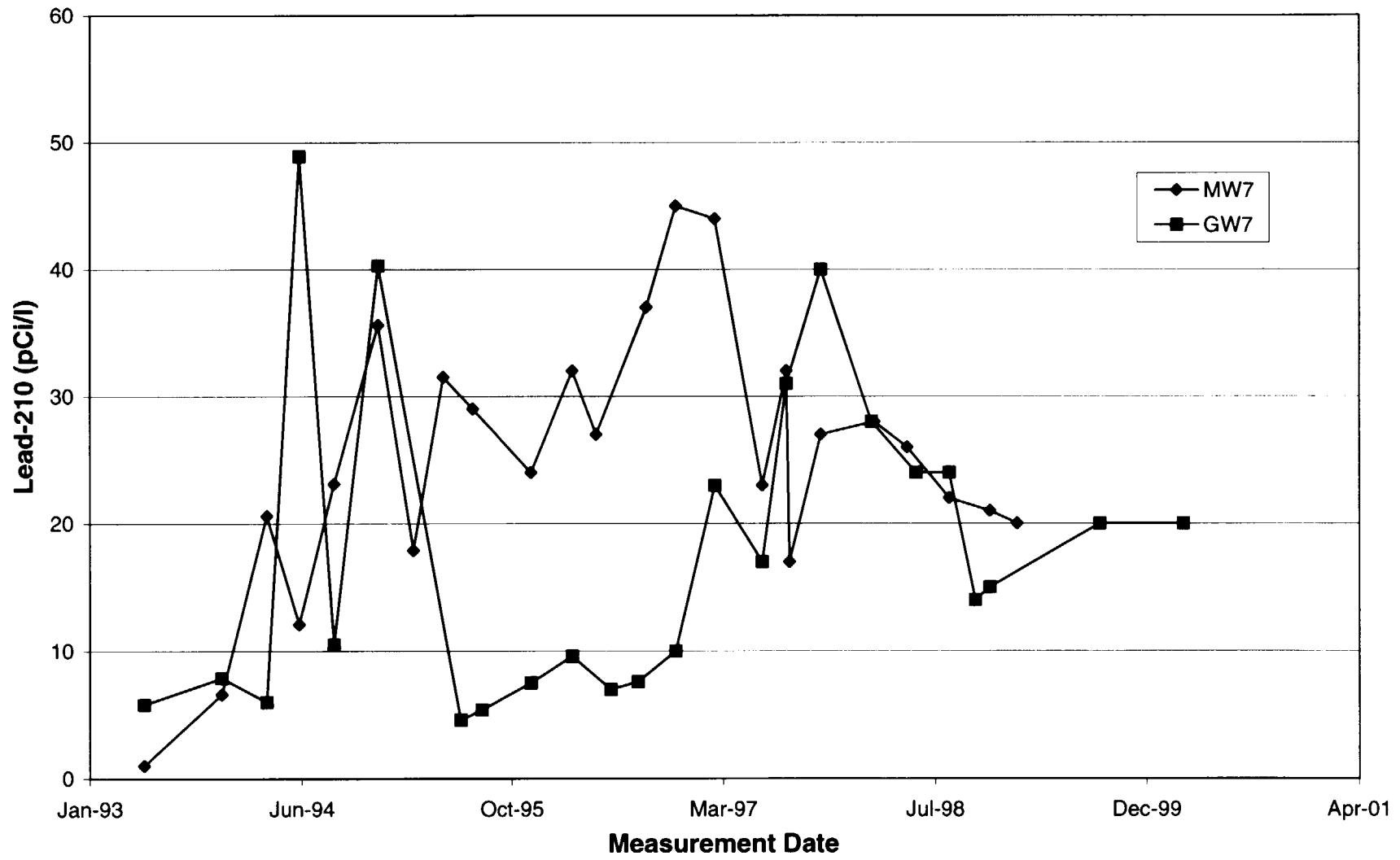


Figure E-13. Southwestern Flow Regime - Basis for Lead-210 ACL (GW7 and MW7)



**Figure E-14. Southwestern Flow Regime - Basis for Natural Uranium ACL
(GW7 and MW7)**

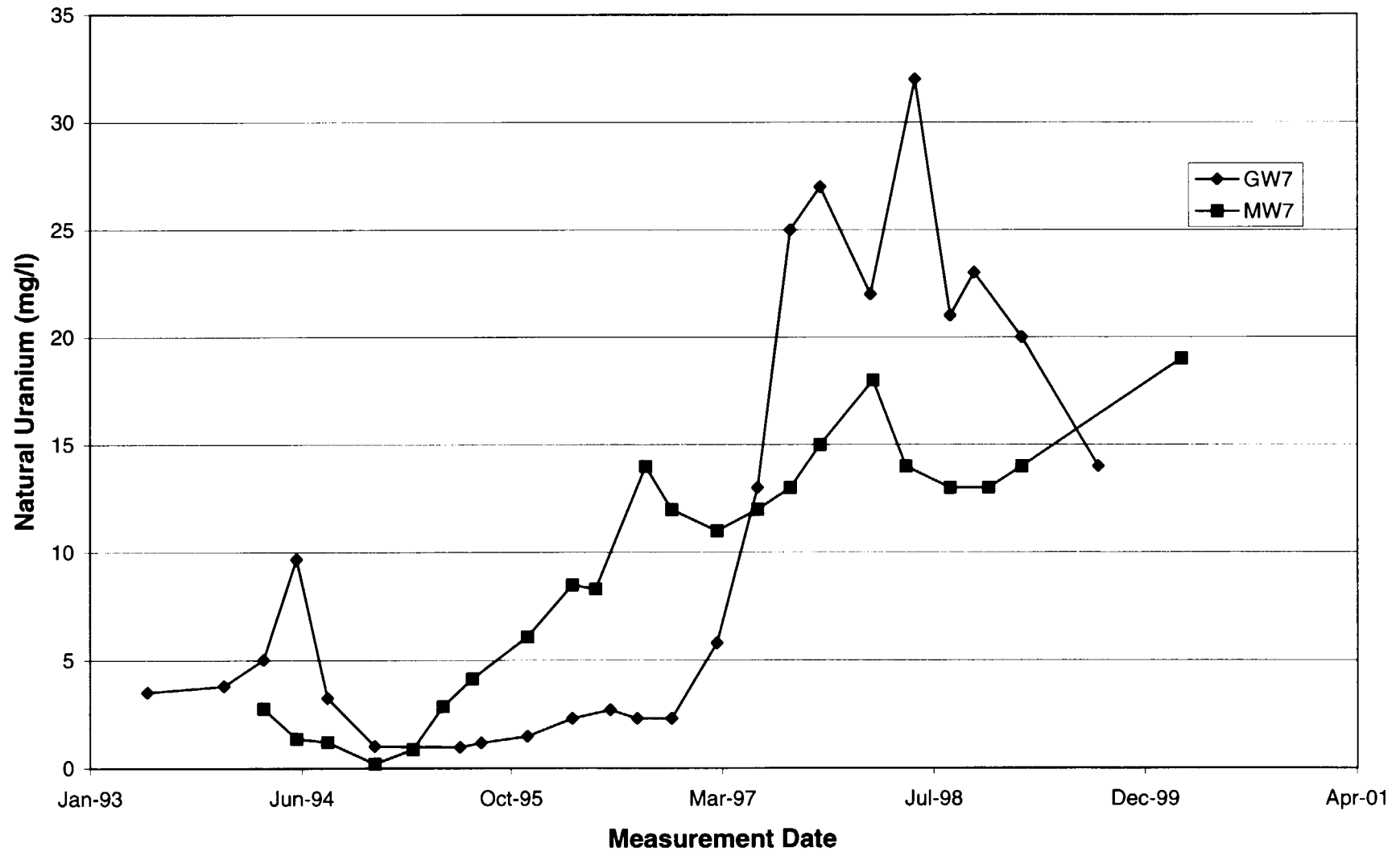
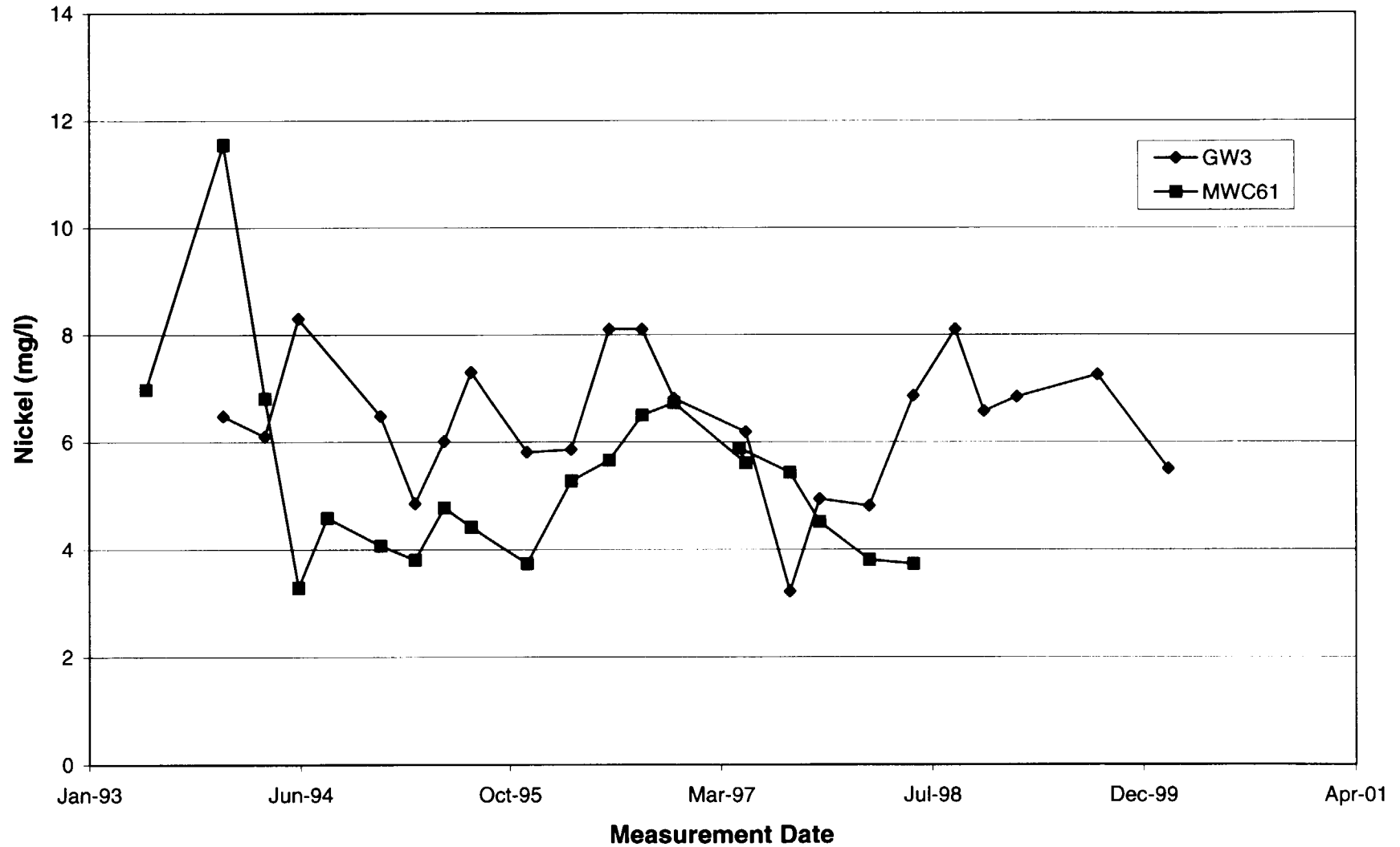


Figure E-15. Southwestern Flow Regime - Basis for Nickel ACL (GW3 and MWC61)



**Figure E-16. Southwestern Flow Regime - Basis for Radium-226+228 ACL
(GW7, MW7 and MWC61)**

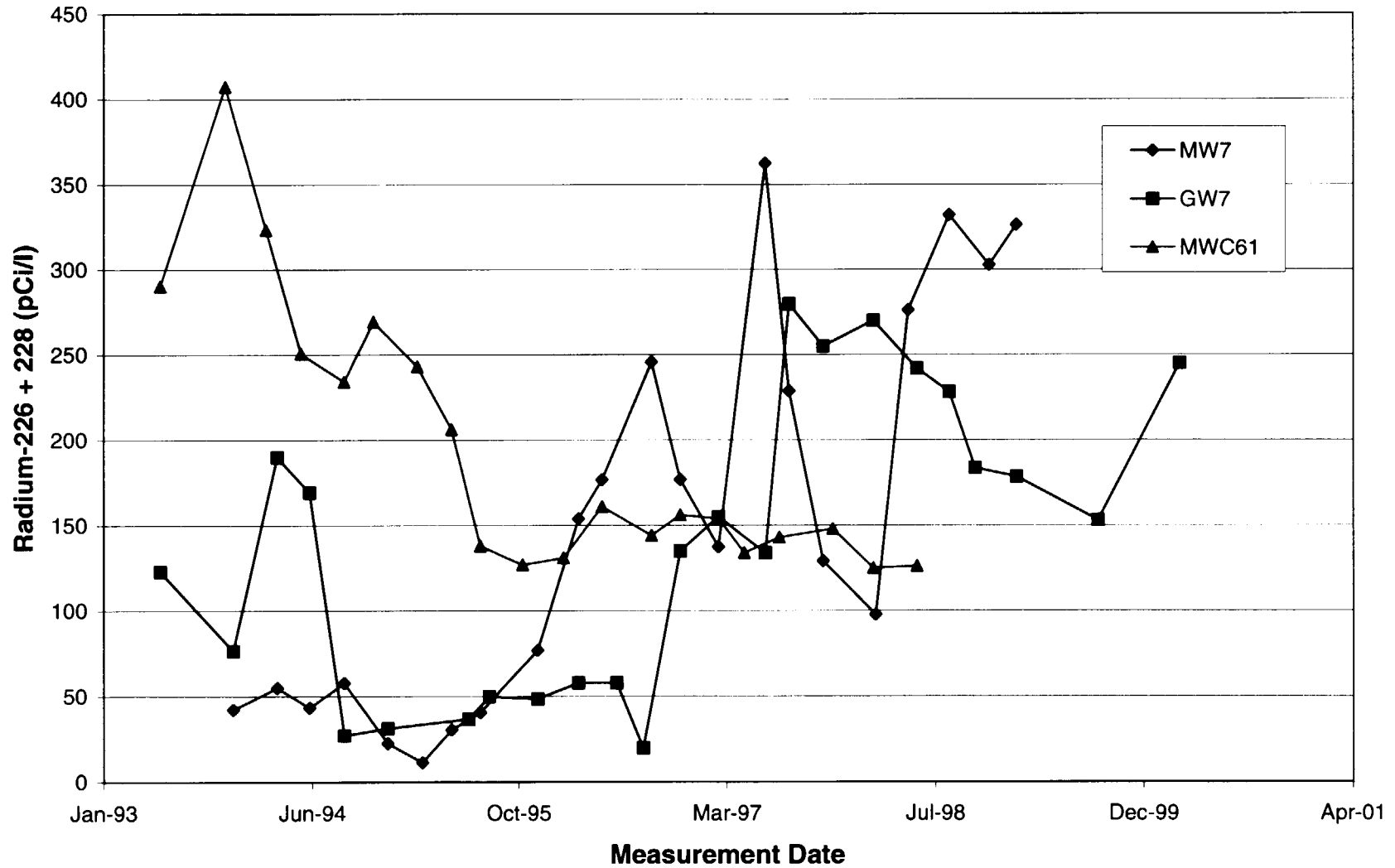
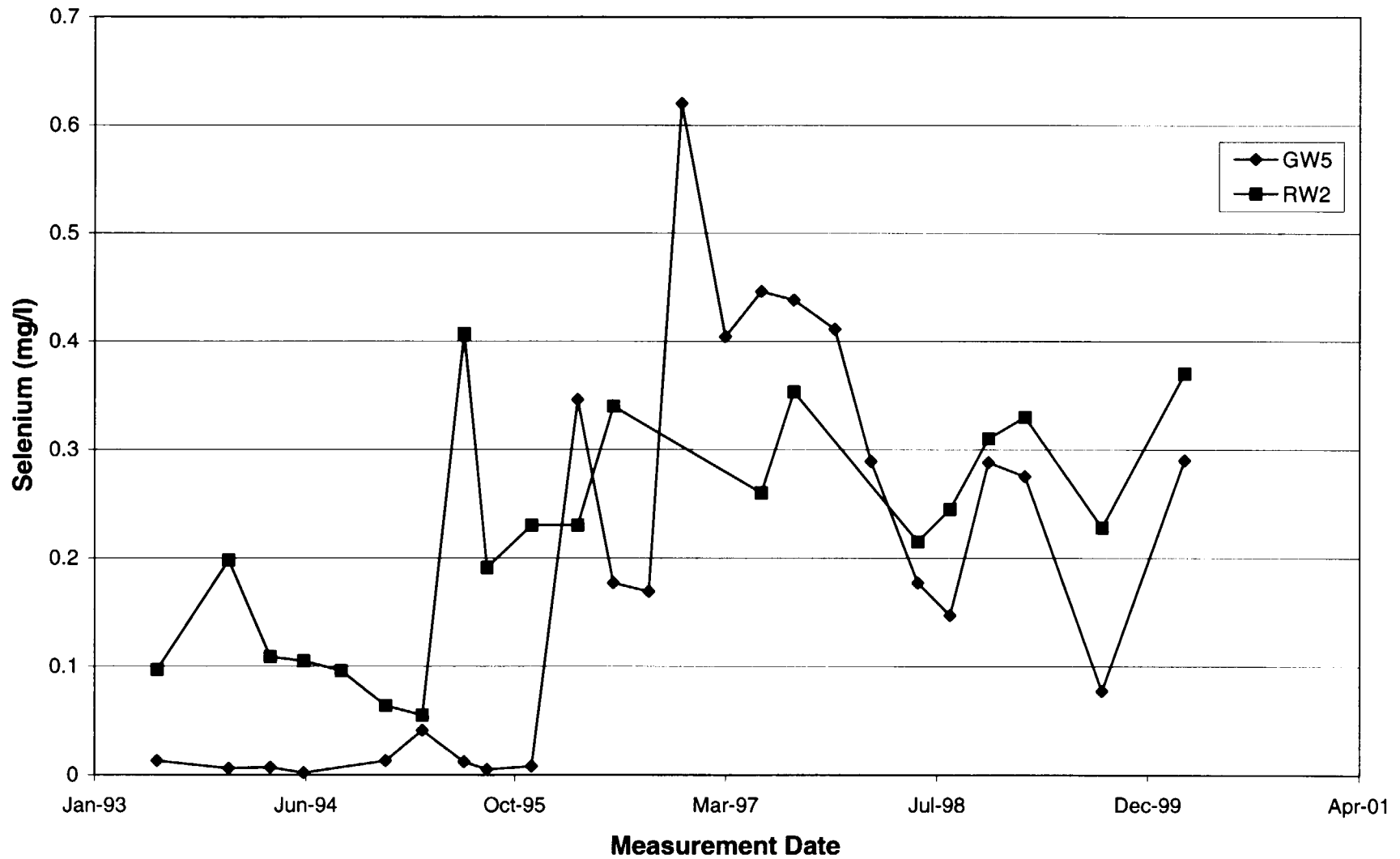


Figure E-17. Southwestern Flow Regime - Basis for Selenium ACL (GW5 and RW2)



**Figure E-18. Southwestern Flow Regime - Basis for Thorium-230 ACL
(GW3, GW7 and MW7)**

